AIN
AVIATION INTERNATIONAL NEWS

SEPTEMBER 2025 | Vol. 54 No. 9 | AINonline.com $12.00

RESTORATION: BRINGING B-29 'DOC' BACK TO LIFE

TECHNOLOGY: LEVERAGING CIVIL, MILITARY IN PARIS

SAFETY: ARE AUDITS IMPROVING THE SAFETY CONTINUUM?

Roundtable: How Data, Safety Shapes Mx

Avionics Excellence

Readers keep Garmin on top of the AIN Product Support Survey charts

PHENOM® 100EX

BY EMBRAER

Enhancing Comfort.
Empowering Pilots.
Enriching Journeys.

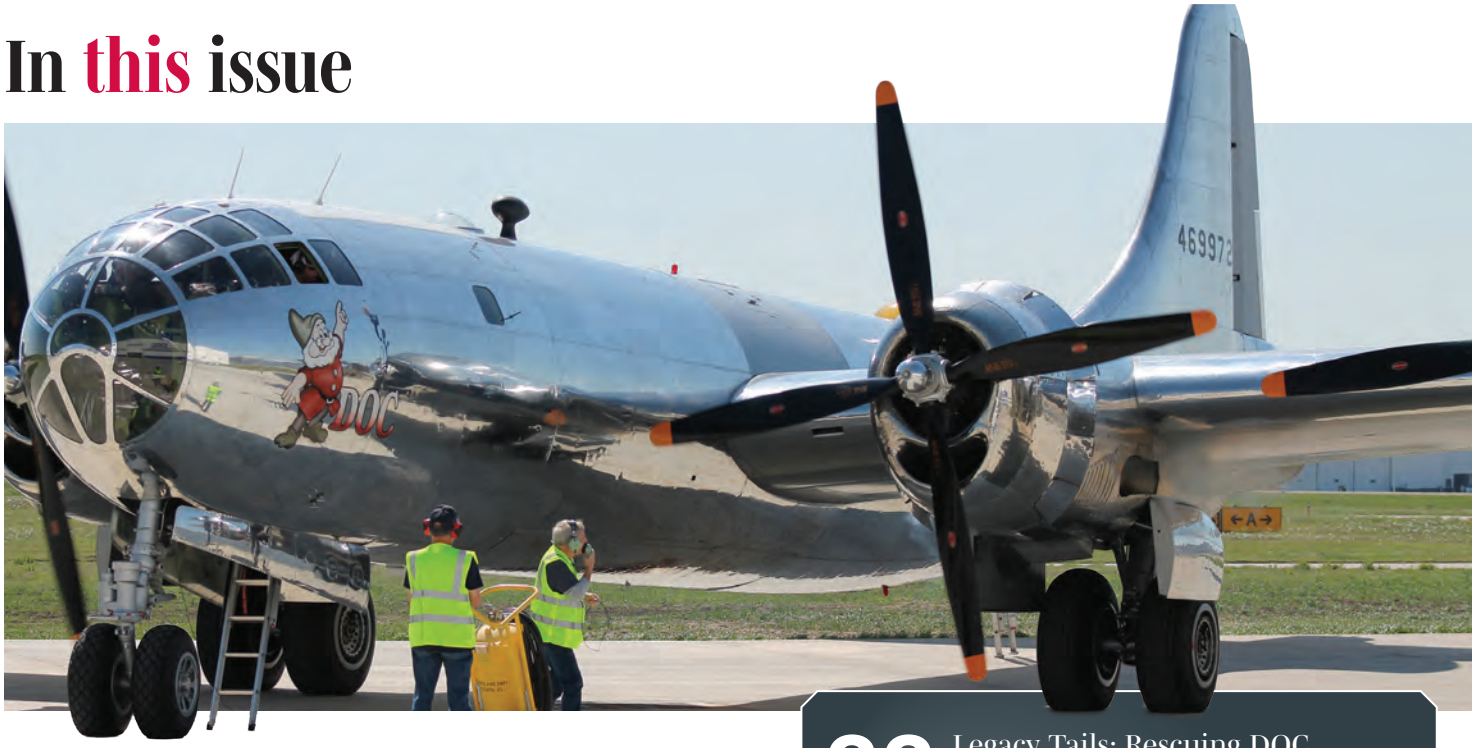
E X P E R I E N C E E X C E L L E N C E

Fly away with the confidence that
only a Phenom can offer you.

+1 321 751 5050 | embraer.com/phenom100ex

EMBRAER

In this issue



On the cover: AIN Product Support Survey, Avionics

SMARTER
AVIATION TRAINING

Leveraging data for safer outcomes

Our training goes beyond checking regulatory boxes. By collecting and analyzing critical data, we ensure pilots train more effectively for the right safety risk areas—and enhance overall industry safety.

FlightSafety INTERNATIONAL

Learn more about our data-enhanced training at FlightSafety.com

Defense tech dominated Dassault's Paris Air Show exhibit and its first-half financial report.

Defense bolstered Dassault's bizjet business in first half

BY CHARLES ALCOCK

Dassault Aviation's defense activities contributed a stronger boost to its business jet unit in half-year financial results. During the first six months of 2025, total order intake at Dassault grew by 57%, to €8.1 billion ($9.5 billion), from the €5.1 billion recorded in the same period last year. With eight Falcon business jets ordered during the first half—three less than last year—this generated €900 million in orders, which was slightly down on last year's tally of €1 billion.

By comparison, the group's defense unit recorded orders worth €7.2 billion from export customers and its home customer, the French government. A highlight of the first half was an order in April from India for 26 Rafale Marine combat airplanes, representing the first export order for this type.

Twelve Falcons were delivered during the first half, unchanged from the first six months of last year. Dassault Aviation CEO Éric Trappier reported that the 6X fleet has now logged more than 3,400 flight-hours.

Dassault's engineering team is now intently focused on development of the new Falcon 10X. Trappier declined to say when the first flight is expected, pointing instead to the larger cabin this will bring to the long-range segment of the private aviation market.

Net sales during the reporting period reached €2.8 billion, which was 12% up year-over-year from €2.5 billion. This was bolstered by an increase in military export orders, but 12 Falcon sales worth €1.1 billion—slightly more than last year—were also part of the mix

The Falcon backlog, as of June 30, stood at 75 jets worth €4.7 billion, slightly down from 79 aircraft in the first half of 2024.

Dassault's latest guidance to financial analysts anticipated year-end net sales of €6.5 billion. This envisages an uptick in new sales for the remainder of 2025 that could include 40 Falcons and 25 Rafales.

In June, Dassault announced plans to start manufacturing 2000LXS twinjets in India, where the first locally-made aircraft will roll off the production line in 2028. Dassault is also investing in its French facilities in Cergy, Martignas, Méreignac, and Istres. Trappier noted that the industry continues to suffer from supply-chain pinch-points as suppliers struggle to remain competitive.

News Briefs

SIGNATURE FBOS COULD SUPPORT AUTONOMOUS EVTOL

Signature Aviation launched a partnership with Wisk Aero to prepare ground infrastructure to support commercial operations with the Boeing subsidiary's autonomous eVTOL aircraft. The FBO group will develop vertiports alongside its private aviation terminals in Houston, Los Angeles, and Miami, where Wisk expects to launch markets for its pilotless, four-seat aircraft. Wisk is preparing to start flight testing its Generation 6 prototype and appears to be targeting service entry of a certified aircraft no sooner than 2030.

TARIFFS HALT PILATUS DELIVERIES TO U.S.

Pilatus Aircraft temporarily paused deliveries of PC-12 turboprop singles and PC-24 twinjets to the U.S. due to 39% tariffs imposed on Swiss imports to the U.S. starting August 7. According to Pilatus, "The new trade tariff imposed by the U.S. authorities puts Pilatus at a significant competitive disadvantage. In the short term, the tariff will lead to a temporary halt in PC-12 and PC-24 deliveries to the U.S. Existing relationships with our U.S. customers and provision of services will continue seamlessly and in full." An exemption for U.S. content will presumably blunt some of the applicability of tariffs on PC-12s and PC-24s.

BRISTOW AND BETA TESTING E-AIRCRAFT ROUTES IN NORWAY

Helicopter operator Bristow Norway and Beta Technologies started operational tests in Norway with the Alia CX300 electric airplane. Trials began on August 8 and will last several months using a "test arena" approved by the country's civil aviation authority and ATC agency. For the test flights, Bristow pilots are evaluating possible commercial routes that could include a connection between Stavanger and Bergen.

More than 13,000 aircraft have connected with our 300 FBOs.

Has yours?

CAA negotiates the best jet fuel prices from preferred FBOs throughout the US and beyond. So you enjoy more savings, more freedom, and more control. Save 30% on average. Try it for 3 months free.

APPLY TODAY!

CORPORATE AIRCRAFT ASSOCIATION®

caa.org

100% FREE 90 DAY TRIAL TRY IT NOW

DOWNLOAD THE NEW CAA Jet Fuel App

Available Now on iPhone and iPad in the App Store
(Android coming Fall 2025!)

Quick fuel price quotes • Preferred FBO locations • Exclusive savings

CAA provides the lowest price on jet fuel offered to Part 91 aircraft at the CAA Preferred FBO.

MATT THURBER

Blackhawk showed off a modified and freshly painted Pilatus PC-12 at EAA AirVenture in Oshkosh.

Blackhawk eyes turboprop retrofit market growth

BY **MATT THURBER**

EAA AirVenture Oshkosh 2025

The Blackhawk Group CEO Chad Cundiff sees plenty of opportunity in the aftermarket retrofit segment that his company targets, especially for owner-flown, high-performance airplanes such as the Pilatus PC-12, Daher TBM series, and Piper's Meridian single-engine turboprop.

"It's easier for the owner to upgrade if the price holds up," Cundiff told **AIN** at the EAA AirVenture show in Oshkosh, Wisconsin, in late July. "A lot of our focus is helping keep that value up." Upgrading the engine, propeller, and avionics, he added, "has the effect of increasing the value of those as well. For the upgrades we offer, we have data that if you do this, it pays for itself when you sell it. And you get that same benefit of being able to use that upgrade until you sell. That resonates with a lot of folks."

The other argument for upgrading, Cundiff explained, is that new aircraft prices are so high and backlogs so lengthy that it often takes years before delivery. "This creates more opportunities to increase the value of these aircraft that are on the market. We don't compete with new sales, we help them. We're raising the residual value of other airplanes in the fleet, and that keeps all these values up."

Owned by New State Capital Partners, The Blackhawk Group consolidates three key brands: Avex, a Daher TBM sales and maintenance provider; Blackhawk, which offers engine, aircraft, and avionics upgrades for turbine-powered aircraft; and Finoff, the PC-12 upgrade division. Earlier this year, Blackhawk acquired Glendale Aero Services, an MRO provider at Glendale Municipal Airport (KGEU) in Arizona, which was rebranded as a Blackhawk Performance Center (BPC). An authorized service center for Textron Aviation and Cirrus Aircraft, the Glendale BPC is approved for Cirrus parachute repacking and Garmin avionics service and installations.

At the Oshkosh show, Blackhawk signed an agreement to upgrade a Piper Meridian from the Pratt & Whitney Canada (P&WC) PT6A-42 to the -135 engine. The upgrade will speed time to climb and enable 10%

EAA AIRVENTURE 2025

News Briefs

FAA CERTIFIES HARTZELL'S ELECTRIC ENGINE PROPELLER

Hartzell Propeller has become the first company to achieve FAA certification for a propeller designed specifically for advanced air mobility (AAM) aircraft, the company said at EAA AirVenture. The Ohio-based manufacturer developed the propeller in collaboration with Beta Technologies and tested it on the latter's electric aircraft to obtain FAA Part 35 type certification. According to Beta, the propeller has undergone thousands of hours of ground and flight testing on the Alia CX300 electric airplane.

DAHER EXTENDS DIGITAL SERVICES TO KODIAK OWNERS

Daher's mobile app for its TBM series is now being developed for the company's Kodiak utility airplanes and will offer similar features such as remote aircraft status, My Kodiak Docs, and contacts. The Me & My Kodiak app now in development was demonstrated at EAA AirVenture. My Kodiak Docs provides access to the latest versions of maintenance manuals, illustrated parts catalogs, line maintenance manuals, service bulletins, briefing cards, and posters.

FAA POSTS FINAL MOSAIC RULE

Transportation Secretary Sean Duffy and FAA Deputy Administrator Chris Rocheleau announced at EAA AirVenture that the FAA has published the final version of the Modernization of Special Airworthiness Certification (Mosaic) rule. This amends the light-sport aircraft rules that came into effect in 2004 but had significant limitations. Under Mosaic, a sport pilot will be able to operate aircraft with up to four seats but limited to carrying two occupants. New privileges under the rule include operating helicopters, flying at night, and flying with retractable landing gear and constant-speed propellers.

to 20% lower fuel burn. “There is a lot of interest in a seven-blade prop,” he said, and MT Propeller is working with Blackhawk to add that to the upgrade. Another upgrade that will be offered soon is compatibility between the King Air 300/350 P&WC PT6A-67A engine upgrade and Collins Aerospace Fusion avionics, which are the factory-installed avionics for the newest versions of the Beechcraft twins.

Since the company built a new hangar at its Broomfield, Colorado BPC, that location has been full of King Airs getting Garmin G1000 upgrades. In January 2024, the Columbia, Missouri BPC was the first dealer to install Garmin’s autothrottles and autoland system on a King Air 200 after the system received FAA supplemental type certification.

At EAA AirVenture, Blackhawk celebrated the delivery of its 2,000th P&WC engine since it was founded in 1999. The company’s XP engine programs have upgraded various airplanes with new PT6 engines that include the PT6A-52, -61, -67A, -67P, -66D, -135A, and -140, saving owners money with the purchase of a new engine that doesn’t cost much more than overhauling an existing engine.

“This milestone is more than a number; it’s a reflection of the trust our customers place in us and the strength of our collaboration with Pratt & Whitney Canada,” said Cundiff. “At The Blackhawk Group, we’re driven by a belief that legacy aircraft still have untapped potential. The 2,000th PT6A engine delivery is proof that when you pair the right technology with the right team, performance has no limits.”

Blackhawk is looking at other upgrade opportunities, including adding more supplemental type certificates and BPCs. While the King Air is one of the smallest airplanes that can be fitted with a Starlink antenna, TBMs don’t have the available space, according to Cundiff, so Blackhawk is exploring the use of the Starlink Mini antenna. “That’s the kind of thing we like doing,” he said.

RICHARD PEDICINI

Latin America's largest business aviation trade show plants new roots at Campo de Marte Airport.

LABACE underscores Brazil's burgeoning bizav sector

BY RICHARD PEDICINI AND AMY WILDER

@ LABACE 2025

The 20th edition of the Latin American Business Aviation Conference & Exhibition (LABACE) drew 14,157 visitors to São Paulo's Campo de Marte Airport from August 5 to 7, exceeding expectations for Latin America's largest business aviation trade show. Organized by the Brazilian General Aviation Association (ABAG), the event featured 54 static-display aircraft and more than 150 exhibitors.

Campo de Marte was a new venue for LABACE after its longtime home at São Paulo Congonhas Airport pushed the event out to make way for construction to expand airline passenger capacity. Several pillars of ABAG and LABACE, such as TAM Aviação Executiva and Lider Aviação, were forced to relocate from their Congonhas bases of more than 50 years to make way for the passenger terminal expansion.

ABAG noted that Brazil remains one of the world's largest business aviation markets, with diverse operations, a robust airport and air navigation network, and a skilled workforce supported by established training centers. However, the association cautioned that several factors threaten the sector's competitiveness.

It cited specific concerns, including the common Brazil tax rate; a selective tax on imports of aircraft and parts; state vehicle tax collection (except for air services); U.S. tariff impacts and reciprocal measures; ESG-related operational limits; and shortages of specialized technical labor.

Crowds filled the LABACE exhibit halls and aircraft display, and exhibitors reported brisk activity and high-quality traffic from business owners, operators, executives, and industry stakeholders. TAM Executive Aviation announced sales of nine aircraft during the show, and Airbus Helicopters logged its first Brazilian sale of the H140, its newest model.

@ LABACE 2025

News Briefs

DAHER AIRCRAFT TO ESTABLISH OFFICE IN BRAZIL

Daher Aircraft is opening an office near São Paulo Congonhas Airport to support and expand its TBM and Kodiak fleet in Brazil, though aircraft sales for this region will still be conducted from the U.S., the company announced at LABACE 2025. Some 60 TBMs are Brazilian-owned, though not all are registered there, along with about seven Kodiaks. Both turboprop families appeal to the rough field conditions common to agribusiness, though they have other uses—an organization at Santarém on the Amazon uses two float-equipped Kodiaks for medevac operations.

TEXTRON CAPTURES FIRST BRAZIL LONGITUDE ORDER

Textron Aviation announced the first order for a Cessna Citation Longitude in Brazil on the opening day of LABACE 2025. The undisclosed buyer already operates another Citation twinjet, as well as Cessna and Beechcraft turboprops. According to Textron Aviation, it held a 40% market share of competitive turbine aircraft deliveries in Latin America last year. Nearly 1,000 Citations and more than 2,100 Cessna and Beechcraft turboprops now operate in the region. The first Longitude in Brazil will be delivered next year.

BOMBARDIER EYES BIZAV GROWTH IN SOUTH AMERICA

Bombardier holds nearly 30% of the business jet market share in South America, with Brazil "driving the region," according to company v-p Michael Anckner. He emphasized Bombardier's "broad product range, which can fit customer needs" in Latin America. He identified agribusiness as the sector that has shown the largest growth in Brazil over the last decade, though he noted that "it is not necessarily our largest sector."

ABAG projects that preliminary deals exceeding $150 million in aircraft, equipment, and services will be finalized in the coming weeks, with an equivalent amount expected by year-end from show-driven business.

"LABACE reaffirms its role as a showcase for business aviation in Brazil and Latin America," said ABAG CEO Flavio Pires. "More than just an exhibition, it's a trade show that generates real opportunities and drives the entire industry chain. We are very pleased with the reception, the high level of visitors, and the clear demonstration that general aviation is a strategic tool for the country's economic development."

This year's show opened with amplified energy, perhaps driven by remarkable industry growth numbers. "For the first time, they're all in double digits," Pires said in his opening address. ABAG's latest data points to a strong first half of 2025 for Brazil's business aviation sector. Air traffic was up 32% year over year, the highest volume since 2020. Fleet totals also climbed, with jets up 18%, turboprops up 13%, and turbine helicopters up 10%. ABAG forecasts that the sector will reach one million flights in Brazil by year-end.

"Business aviation is essential for connectivity and economic development in Brazil," Pires said. "We need to ensure a regulatory environment that encourages investment, preserves operational safety, and recognizes the sector's strategic role for the country."

LABACE was greeted with open arms at the Brazilian Air Force's PAMA installations at Campo de Marte. Air Force Commandant Marcelo Damasceno said the Air Force was proud to welcome the fair to the "cradle of civil aviation in São Paulo" and also the site of the air force's first flight. He also hailed plans for the Paulista Museum of Aviation, which is expected to open at the airfield in 2027.

The acting president of Brazil's ANAC aviation agency, Adriano Pinto de Miranda, also appeared and spoke of the importance of general aviation and business aviation to Brazil: reaching areas that have no scheduled operations. Particularly important to business aviation was the presence of city economic development secretary Rodrigo Goulart, who said that one of the administration's priorities is preparing to receive eVTOL aircraft. There are recurrent pressures on Campo de Marte by developers eyeing its valuable real estate.

Pires noted that hosting LABACE at Campo de Marte opened opportunities for expansion, including demonstration flights and enabling visitors to arrive and depart in their own aircraft. The 2026 edition will return to the venue from August 4 to 6 next year.

Embraer seeks zero tariffs on Brazil's aerospace exports

BY CHAD TRAUTVETTER

Embraer is waging a multi-pronged effort to eliminate U.S. tariffs on goods made in Brazil, company CEO Francisco Gomes Neto said during the company's second-quarter earnings call. "Our focus is to restore aerospace back to zero tariffs," he said, noting President Donald Trump's 10% tariff on civil aircraft and components and 50% tariff on most other Brazilian imports. Embraer took a $20 million hit from tariffs on its commercial and executive jets in the quarter and expects another $45 million blow in the second half should these levies remain on Brazil's aerospace industry.

According to Neto, Embraer is working with both Brazilian and U.S. government trade negotiators to exempt aerospace from the new tariffs, as it had been since 1980 under the Agreement on Trade in Civil Aircraft. He also pointed out similar zero-tariff deals for aerospace recently negotiated between the U.S. and the UK, EU, Mexico, and Canada. "We are positive of a good resolution on tariffs," Neto predicted.

His pitch to U.S. negotiators includes $500 million of planned investments in Embraer's business jet production plant in Melbourne, Florida; a commercial MRO facility in Dallas; and a potential KC-390 production line in the U.S. if the military twinjet is purchased by the U.S. Air Force as an "agile combat asset." Of that total, $90 million is earmarked for the Melbourne facility to expand Phenom 100EX and 300E production and enlarge the flight prep area for the Praetor 500 and 600, as well as add a paint booth that can accommodate both Phenoms and Praetors.

Neto is also playing up to U.S. negotiators that, because its aircraft have about 40% U.S. content, Embraer will have an $8 billion trade surplus in the U.S.'s favor over the next five years.

Trump has explicitly tied the high tariff imposed on Brazil since August 1 to his personal opposition to the prosecution of former Brazilian President Jair Bolsonaro.

Embraer has marked $90 million for its Melbourne, Florida, facility to expand Phenom production, enlarge the Praetor flight prep area, and add a paint booth that can accommodate both families.

News Briefs

GULFSTREAM SOARS AS BIZJET DELIVERIES, REVENUES RISE

Revenues at General Dynamics' aerospace division, which includes Gulfstream Aerospace and Jet Aviation, climbed 4.1% year over year to $3.062 billion in the second quarter. Profits soared by 26.3% to $403 million, thanks to increased deliveries at Gulfstream: 38 aircraft (32 large-cabin jets and six super-midsize G280s) versus 37 (31 large-cabins and six G280s) in the same period last year. In the first six months, Gulfstream shipped 74 jets (62 large-cabins, 12 G280s), compared with 61 (59 large-cabins, nine G280s) in first-half 2024. It plans to deliver 150 to 155 aircraft this year, with G800 shipments expected to start soon.

FIRST FAA STC APPROVED FOR GOGO LEO ANTENNA SYSTEM

Trimec Aviation received the first FAA STC for a fuselage-mount installation of Gogo's Galileo HDX low-earth-orbit antenna system on a Gulfstream G200, marking the initial North American approval for the compact electronically steered antenna configuration. With the STC approval, G200 operators will be able to access global high-speed, low-latency broadband connectivity through the Eutelsat OneWeb constellation.

BOMBARDIER DELIVERIES DIP BUT POISED FOR 2H JUMP

Bombardier delivered 36 aircraft in the second quarter, three fewer quarter over quarter, but achieved a book-to-bill of 2.3:1 thanks to a firm 50-aircraft order from an unnamed customer. Due to the softer deliveries, the Montreal-based airframer experienced an 8% decline in revenues to $2 billion. Company officials said it remains on track to deliver at least 150 aircraft this year. Bombardier handed over 15 Globals in the second quarter, four fewer than a year earlier, and 21 Challengers, an increase of one. In the first half, it is on par with 2024, delivering 59 aircraft.

AIN Media Group

AIN's Annual 2026 FBO Survey

MAKE YOUR VOICE HEARD

Aircraft operators and other FBO users can rate airport service providers they frequent worldwide in five categories—line service, passenger amenities, pilot amenities, facilities, and CSRs—as well as give a shout out to facility staffers who went above and beyond in providing great service.

The results will be announced at AIN's 2nd Annual FBO Awards Dinner & Gala on March 26, 2026, and will appear in the April 2026 issue of of **Aviation International News**.

FBO Survey respondents will be entered to **win a $250 gift card.**

For more information on AIN's FBO Awards Dinner & Gala visit **AINFBOAwards.com**

To access the survey and record your votes, visit: FBOSurvey.com

AIN Product Support Survey: Avionics

BY CURT EPSTEIN AND AIN STAFF

Garmin and Gulfstream take top spots in flight deck and cabin management systems, respectively.

Garmin firmly retained its top spot for overall average in the Flight Deck Avionics rankings of **AIN**'s Product Support Survey in 2025, as it has for the duration of the category over the past few decades.

Following the release of the results surrounding airframers in the August edition of **AIN**, part two of the Product Support Survey in this month's edition deals with aircraft electronic systems: avionics, cabin management (CMS), and connectivity. Some of the OEMs, such as Honeywell, Collins Aerospace, and Garmin, are active in multiple arenas, while others, including Lufthansa Technik and Gogo, focus solely on one segment. OEMs Gulfstream and Textron Aviation are included in the survey due to their own branded CMS solutions.

In the Flight Deck Avionics group, Garmin topped the next closest entry by seven-tenths of a point despite changes to the **AIN** survey methodology that weighted more toward independent reviews.

The Airborne Connectivity market was roiled in late 2024 when Gogo acquired rival Satcom Direct, the latter of which was among the top scorers in the group this year with an overall score of 8.6 out of 10, three-tenths of a point above that of its new owner.

Under Cabin Management Systems, Gulfstream rose to the top of the list in this year's results, with the Savannah, Georgia-based airframer's overall average score of 8.0 barely edging out Collins Aerospace.

Across the maintenance landscape, shops are reporting a healthy average backlog of between three and six months. Though technician labor availability remains an issue in the industry, companies have noted that retention of their workershas now become at least as important as recruitment, with quality-of-life issues taking a larger role in employee satisfaction.

The supply-chain issues that hampered the entire industry in the aftermath of Covid seem to be sorting themselves out as OEMs work to provide defenses against future disruptions.

Malcolm Fleming, v-p of global technical operations at Honeywell Aerospace Technologies, highlighted the company's aggressive approach to supply-chain strengthening.

"Honeywell's year-on-year output growth on global supply chain [was] 19+% in 2024/18+% in 2025," Fleming reported, noting a 9.2% year-over-year increase in Honeywell factory labor and 805 part numbers multi-sourced in 2024, with continued efforts in 2025.

"Production rates increased late last year and will continue to do so," said Lor Izzard, Gulfstream's senior v-p of customer support. "Gulfstream brought a great deal of third-party supplier work in-house years ago to take control of key elements in our supply chain to further ensure oversight of safety and quality measures."

Category & Overall Average Ratings for Avionics Systems	Overall Average 2025	Cost per Hour Programs	Parts Availability	Cost of Parts	AOG Response	Warranty Fulfillment	Technical Manuals	Technical Reps	Overall Avionics Reliability
Flight Deck Avionics									
Garmin	**8.8**	**9.0**	**8.9**	**8.0**	**8.8**	**8.7**	**8.8**	**8.7**	**9.2**
Collins Aerospace	8.1	7.7	7.9	6.7	8.1	8.5	8.2	8.3	8.8
Honeywell	7.3	6.8	6.9	5.6	7.0	7.9	7.9	7.5	7.9
Cabin Management Systems									
Gulfstream Cabin Management	**8.0**	8.1	**7.8**	6.7	**8.2**	**8.7**	7.8	**8.7**	8.0
Collins Aerospace	7.9	7.8	**7.8**	6.7	7.9	8.2	**8.1**	8.2	**8.2**
Lufthansa Technik	7.7	**8.3**	**7.8**	**6.9**	7.4	8.4	7.6	8.0	7.7
Honeywell	6.9	7.7	5.8	6.0	6.7	7.6	7.4	7.3	7.5
Airborne Connectivity									
Garmin	**9.0**	**9.1**	**8.9**	**8.8**	**9.0**	**9.0**	**9.2**	8.8	**9.3**
Satcom Direct	8.6	8.1	8.5	7.6	8.7	**9.0**	8.6	**9.3**	8.6
Collins Aerospace	8.4	7.9	8.6	7.6	8.3	8.9	8.6	8.6	8.7
Gogo	8.3	7.4	8.6	7.4	8.6	8.9	8.4	8.9	8.3
Honeywell	7.5	6.2	8.1	6.3	7.4	8.2	7.6	7.7	8.0

SURVEY RULES AND METHODOLOGY

AIN's annual Product Support Survey aims to quantify and rate through statistical analysis the product support functions of aircraft manufacturers over the past year. The survey, whose respondents include operators of business jets, pressurized turboprops, and turbine-powered helicopters, endeavors to encourage continuous improvement in product support throughout the industry.

SURVEY TOOL

For the fourth year, **AIN** conducted the survey via a questionnaire developed in partnership with Rolland Vincent Associates, a Texas-based consultancy focused on aviation market research, strategy, and forecasting. Designed to provide improved ease of use and to encourage more participants to complete the entire questionnaire, the English-language survey tool includes clear language and imagery around the categories and evaluation scale. The survey asks respondents to evaluate one full aircraft at a time, including airframe, engines, avionics, and cabin management systems.

METHODOLOGY

AIN emailed qualified readers from its list of subscribers a link to the password-protected survey website active from late February to June 1, 2025. It asked respondents to rate individual aircraft and provide the tail number, aircraft age, primary region of service, and whether they used factory-owned or authorized service centers, or both. The avionics segment of the survey also asked respondents to rate, on a scale from 1 to 10, the quality of service they received during the previous 12 months in the following categories: Cost Per Hour Program; Parts Availability; Cost of Parts; AOG Response; Warranty Fulfillment; Technical Manuals; Technical Reps; and Overall Avionics Reliability. In order to boost the total number of responses and broaden the global reach of the Product Support Survey, **AIN**'s email recruiting efforts were supplemented by manufacturer outreaches. Tabulated results represent a supermajority of **AIN**-recruited responses, with the goal of maintaining the primacy of **AIN**'s survey recruiting and minimizing sampling bias potential.

THE RESULTS

In total, 948 unique respondents representing 1,863 aircraft from 62 countries completed the survey. While total responses were higher than last year's total, **AIN** did not receive enough ratings to verifiably report results for Viasat, Universal Avionics, or Textron Aviation. Rolland Vincent Associates reviewed the data to ensure accuracy, validity, and sampling integrity.

GARMIN

With its 8.8 overall average score in Flight Deck Avionics for 2025, Garmin not only held on to its top spot in the category, but it also notched the highest scores in each of the individual ratings.

Of note, the Olathe, Kansas-based avionics and electronics company brought in high scores of 9.0 and 8.9 in cost-per-hour programs and parts availability. Even the cost of parts, which has dragged down most manufacturers' scores throughout the **AIN** Product Support Survey results, came in at an 8.0 in Flight Deck Avionics. But leading the category was its overall avionics reliability rating with a score of 9.2—the highest across the equipment providers.

In fact, the only higher overall avionics reliability rating throughout the avionics survey was a 9.3 in the Airborne Connectivity category. This, too, was a Garmin score. This helped Garmin also keep its top spot in Airborne Connectivity with an overall average score of 9.0.

As it maintains these ratings, Garmin continues to build on its customer support activities, including launching an entirely new Garmin Aviation Training Academy that offers an expanded library of maintenance training videos and eLearning modules for dealers and authorized service centers.

The library makes its catalog more accessible to installers, the company said. Plans call to add more technical training, management, and recordkeeping resources for its dealers. As such, Garmin led the technical manual and technical

representative ratings in the Flight Deck Avionics category with scores of 8.8 and 8.7, respectively.

In addition, the company expanded its self-service customer support options with more articles in its frequently asked questions database located in the Aviation Support Center on its website.

To attend to all of this, Garmin created a support team specializing in database management, which it said has reduced wait times for customer inquiries and freed resources to improve response times for customers needing product-specific assistance. The company also added video chat capability, which is making troubleshooting more efficient and accurate—particularly with more complicated product concerns.

COLLINS AEROSPACE

Collins Aerospace maintained its second-place position in Flight Deck Avionics with an 8.1 overall rating, while also finishing second in the Cabin Management Systems group with a 7.9 score and third in the Airborne Connectivity with an 8.4 rating.

The avionics manufacturer's strongest performance came in the connectivity category, where it scored particularly well in warranty fulfillment with an 8.9.

In the flight deck ratings, Collins demonstrated solid performance across most categories, with its highest marks coming in overall reliability at 8.8 and warranty fulfillment at 8.5. The company's broad customer base was evident in the survey response volume, drawing more responses

› Collins Aerospace continued

than any other manufacturer across all three categories measured.

Collins continues expanding its digital transformation initiatives with enhanced customer support tools and modernized avionics offerings. The company has invested heavily in streamlined processing systems that automatically aggregate customer data, create case files, and prioritize support requests to improve response times.

"Collins has continued to invest in more intelligent tools that expedite customer processing, requests, and response times," said a company spokesperson. "These tools quickly and efficiently aggregate inbound data, automatically create case files, alert Collins support personnel to issues, and help prioritize cases."

The deployment of these tools has improved visibility into case resolution, allowing the company to measure the impact of its processes more effectively and identify areas for improvement. Collins has also strengthened the integration between its support center and rental/exchange services, resulting in faster issue resolution for customers.

Beyond customer support infrastructure, Collins has been active in product modernization throughout 2025. The company launched comprehensive avionics upgrade programs for Beechcraft King Air and Hawker aircraft, spanning its Pro Line Fusion and Pro Line 21 systems. These upgrades advance aircraft performance and safety while equipping cockpits with technologies that reduce pilot workload and enhance situational awareness.

Collins also announced Pro Line 21 functionality upgrades for in-service Cessna Citation business jets, available beginning in the second half of 2025. The enhancements include controller-pilot datalink communications, ADS-B In weather information, enhanced connectivity, and wireless database uploads.

In the cabin management space, Collins delivered its upgraded Venue system equipped with new smart monitors and an enhanced graphical user interface. The system can integrate directly into a complete Venue installation or function as a standalone in-flight entertainment (IFE) solution, providing flexibility for operators ranging from very light jets to VVIP aircraft. Additionally, the company introduced its Airshow HD entertainment system integrated into Venue smart monitors, offering an all-in-one IFE solution without requiring a full cabin management system upgrade.

HONEYWELL

Honeywell showed mixed results across the three avionics categories in 2025, maintaining a 7.3 overall rating in Flight Deck Avionics while experiencing challenges in Cabin Management Systems, where it dropped to last place with a 6.9 score. The aerospace manufacturer finished last in Airborne Connectivity, with a 7.5 rating.

In Flight Deck Avionics, Honeywell's strongest performance came in overall reliability with a 7.9 rating and warranty fulfillment at 7.9. However, the company struggled in cost-related categories, posting its lowest score of 5.6 in cost of parts. The substantial customer response volume across all categories—drawing hundreds of survey responses—demonstrates Honeywell's broad installed base.

Honeywell has made substantial investments in supply-chain improvements and digital infrastructure upgrades throughout 2025, addressing longstanding customer

concerns about parts availability and technical support accessibility.

The company has made strides in improving its Spare Parts Exchange (SPEX) program quality. "[We] focused on

› Honeywell continued

improving the quality of our avionics Spare Parts Exchange by improving test procedures and repair procedures to decrease no faults found (NFF) and out-of-the-box failures," explained Malcolm Fleming, Honeywell Aerospace Technologies' v-p, global technical operations. "Preliminary 2025 data shows a 30% and 60% reduction in out-of-box failures and NFF, respectively."

Fleming also reported improved delivery performance: "Overall SPEX 'on time to request' delivery performance increased to 92% in June, up from 86% in June of 2024."

Digital integration has become a key focus area, with Honeywell implementing touchless order flow systems with OEM and channel partners to reduce repair and overhaul turnaround times. The company has also expanded its use of artificial intelligence to enhance customer service offerings. "Honeywell Aerospace Tech Support is using GenAI to provide recommendations on technical issues," Fleming noted. "We introduced GenAI to help our AOG team process orders more effectively. The technology is used to scan incoming purchase orders and identify the best solution to get the right part to the customer the fastest."

Beyond operational improvements, Honeywell has continued expanding its technology portfolio with product launches and partnerships throughout the past year. The company introduced its next-generation JetWave X satellite communication system, featuring a multi-network architecture and speeds exceeding 30 Mbps. Honeywell also strengthened its position in advanced air mobility through expanded partnerships with companies like Vertical Aerospace and Near Earth Autonomy, developing autonomous flight capabilities and next-generation avionics systems.

Despite these investments, Fleming acknowledged ongoing challenges: "The biggest challenges have been support chain and finding skilled aviation professionals such as field service engineers." He noted that while supply-chain performance has improved over the past few years, "the biggest challenges are in the mechanical side of the business, but we are continuously investing in the ecosystem with the aim to improve it in the shortest possible time."

UNIVERSAL AVIONICS

Universal Avionics (UA) has continued to build out new technologies for training and customer support as it bolsters legacy programs with upgrade options.

The Tucson, Arizona-based subsidiary of Elbit Systems, which did not receive enough ratings for inclusion in this year's **AIN** Product Support Survey—Avionics rankings, has rolled out upgrades to its retrofit InSight Flight Display System and ClearVision Enhanced Vision to add up to 20 years to an aircraft's lifespan. These upgrades are part of a drive to modernize aging aircraft and overcome challenges with outdated avionics, according to UA CEO Dror Yahav.

As Universal looks to support legacy systems, it is future-proofing its own systems as it digitizes its technical publications and works to the S1000D standard for producing and distributing them. The company has also innovated with virtual reality to improve efficiency and costs for its dealers and end customers.

Meanwhile, UA has expanded on its training programs, including its online on-demand sessions accessed through the UA Academy that the company launched in 2020 at the height of the pandemic. These sessions come in addition to the hands-on training Universal provides at its Tucson center. Courseware at the academy is designed for pilots, technicians, and authorized dealers, covering topics such as flight management system end-user maintenance and return to service, among others.

GULFSTREAM AEROSPACE

In the Cabin Management Systems category, Gulfstream scored the highest in this year's **AIN** Product Support Survey with an overall rating of 8.0. The Savannah airframer earned its highest scores of 8.7 in the rankings of warranty fulfillment and technical representatives. It also led the category in AOG response (8.2) and tied for the top score in parts availability (7.8).

"Gulfstream's continued cabin management modernization for the GIV-G550 focuses on a passenger-centric experience," said Lor Izzard, senior v-p of customer support. "Designed with our customers in mind, we've integrated modern technology, advanced cabin management components, and intuitive controls to add convenience and cabin control options."

The new wireless, switchless cabin feature simplifies the in-flight experience by giving passengers control of preferences and settings through their personal electronic device, through a 10-inch galley touchscreen, or via six core switches. It allows fewer control units to support a sleek, modern cabin design. For added flexibility, compatible switch panels can be installed at existing locations. The new design features USB ports at each personal switch panel, along with light and shade switches, which have been relocated to the side ledges for improved ergonomics.

"Connectivity remains an essential part of Gulfstream's cabin experience, and we remain committed to delivering in-flight productivity, entertainment, and operational capabilities that transform the onboard experience for [our] operators worldwide," Izzard told **AIN**. Over the past year, the manufacturer further developed its technology to provide its customers with more network options to support the best possible coverage, performance, redundancy, and service flexibility.

Gulfstream created in-production and retrofit-ready Starlink satcom solutions for its current large-cabin business jets and is expecting additional certifications for the G550 and G450 models later this year.

Gulfstream has also made progress in incorporating supplemental type certificates for the former Satcom Direct (now Gogo Business Aviation) Plane Simple Ka-band and Ku-band antenna, and advanced radomes for the GV, G550, G650, G500, G600, G700, and G800 twinjets, to provide more speed and data accessibility.

LUFTHANSA TECHNIK

Lufthansa Technik (LHT) tallied an overall score of 7.7 this year for its cabin management systems (CMS) in this year's **AIN** Product Support Survey. The company earned the highest rating in the category for its warranty fulfillment (8.4).

LHT reached a milestone over the past year with the delivery of its 2,000th Nice (networked integrated cabin equipment) CMS shipset. "With such a broad customer base, reliable customer support is key," a company representative explained. "Thus, the past year saw an extension of our worldwide customer service network to a full 24/7 support." It also installed additional customer

› Lufthansa Technik continued

support capacity to improve its global reach and availability across the various time zones of its broad customer base.

The Germany-based manufacturer noted, "One of the biggest challenges in modern cabin design is to embed technology without disrupting the elegance and luxury of the space." During the Aircraft Interiors Expo in Hamburg in May, Lufthansa Technik showed off its new hidden touch displays that can be integrated seamlessly into cabin surfaces, along with its lightweight OmniFi speakers, which can be embedded into cabin walls and decorated with materials such as leather.

A recent addition to the Nice portfolio is an all-in-one cabin management system that incorporates multiple control functions into a compact unit that is suitable for simplified installation on smaller business aircraft.

LHT produces the majority of its electronic and mechanical IFE/CMS components in-house, on optimized production lines. That level of control is reflected in its category-leading score in cost of parts (6.9), and tying it for the lead in parts availability (7.8). "For the parts we do not produce internally, we have moreover optimized our worldwide sourcing strategy with the aim to include multiple suppliers," the spokesperson told **AIN**. "The demand forecasting was also enhanced and is constantly shared with our supply-chain partners."

The company increased its stock supplies and extended its proactive obsolescence management down to the raw material level.

On the fulfillment side, LHT worked to improve its supply chain with the installation of a flexible parts logistics network that now includes door-to-door service for AOG situations.

TEXTRON AVIATION

Textron Aviation did not receive enough responses this year for its scores to be listed in this year's **AIN** Product Support Survey for cabin management systems.

"Textron Aviation proudly supports Beechcraft, Cessna, and Hawker customers throughout their ownership journey by continuing investments in connectivity and avionics upgrades based on customer feedback," said Brian Adams, the company's v-p of business operations and innovation. "As the original equipment manufacturer of the aircraft, [we] can offer OEM-certified upgrades to maintain the system's integrity as originally certified."

It recently announced an upgrade to the Caravan and Grand Caravan EX cabins, which will now come standard with eight USB-C charging units—each with two ports—providing 16 total charging points for passengers.

Among the major areas where the company has invested is in connectivity upgrades. "Staying connected has never been more important, and it's one of the biggest priorities for our customers," Adams told **AIN**. He noted that the OEM has expanded and enhanced its aftermarket connectivity options over the past year.

Gogo's Galileo HDX service will be coming soon across most of the airframer's Citation business jet portfolio, with FAA supplemental type certificate approval expected by the end of the year.

Starlink high-speed connectivity is now available through Textron Aviation service centers on many of its models, including the Cessna Caravan, Citation Sovereign, XLS, X, and Beechcraft King Air 200 and 300 series.

On the avionics side, to improve situational awareness and reduce pilot workload, XLS owners can now install the Garmin G5000 cockpit, while CJ2 operators can also upgrade to an all-Garmin solution through any of Textron's global service network locations.

GOGO BUSINESS AVIATION/SATCOM DIRECT

With the acquisition of Satcom Direct by Gogo Business Aviation in late 2024, the combined business covers a gamut of airborne connectivity products from air-to-ground in the U.S. and Canada, geostationary satcom via the former Satcom Direct's Plane Simple systems, and worldwide low-earth-orbit satcom coverage with Gogo Galileo.

The acquisition enables the companies to leverage each other's service capabilities, creating an extensive network. However, since the acquisition did not conclude until late last year, Satcom Direct and Gogo were rated separately in the current survey, with the former posting a strong 8.6 overall average rating in the Airborne Connectivity category, second only to Garmin, and Gogo following not too far behind with an 8.3.

Satcom Direct tied with Garmin with a high score of 9.0 in warranty fulfillment and led all manufacturers in all categories of the avionics survey in technical reps with a 9.3. Gogo, meanwhile, garnered a strong 8.6 in parts availability and AOG response and 8.9s in warranty fulfillment and technical reps.

Gogo customer service teams are located at four sites: Dubai; Farnborough, UK; Melbourne, Florida; and Denver. This enables 24/7/365 full-service coverage, according to the company, "supported by ongoing infrastructure investment."

Gogo has added to its training capability, supporting not only the airborne connectivity experience but also cybersecurity, which was a key focus of Satcom Direct. New training modules address "how AI is changing the cyber landscape," including both the effects of malevolent actors and how AI can be used to prevent and mitigate cyber events, the company noted. Dealers can take advantage of master technician and installer courses, and aircraft operators and technicians are encouraged to take the Aero IT course pioneered by Satcom Direct, which has seen rapid growth in the last 12 months.

On the support side, the Premium 1:1 support team is helping new operators with Plane Simple Ku-band and Gogo Galileo HDX antennas. The HDX antenna can be installed on smaller aircraft such as light and midsize jets, which brings new users to the satcom connectivity market. All customers benefit from a single point of contact for technical issues, and in addition, access to cross-trained technicians and tools such as proactive data monitoring and live diagnostics for rapid fixes.

› Gogo Business Aviation/Satcom Direct continued

Often, issues are taken care of before the customer knows there is a problem. "With global support access and a team that is rarely more than 12 hours from a customer's aircraft, Gogo remains committed to delivering always-on connectivity without restriction for enhanced value," the company said.

Gogo has continued the annual Satcom Direct Connecting with Customers event, held this year near Gogo headquarters in Denver. Gogo is holding similar events in Singapore, London, and Basel, Switzerland. "Customers gather information about the latest connectivity topics and share skills and insights through workshops, presentations, and networking," according to Gogo. "Breakout sessions offer the opportunity to garner professional credits, which enhances their career and helps raise industry standards."

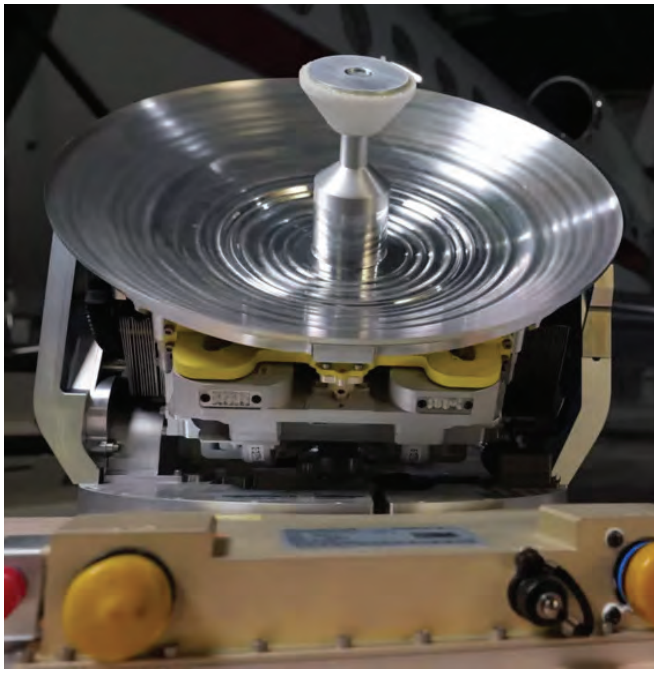
VIASAT

Viasat did not receive enough user responses for its scores to be included in this year's survey results. The biggest challenge facing airborne connectivity providers is keeping up with customer expectations, according to Viasat v-p of strategic market engagement Claudio D'Amico. "The industry is maturing beyond a simple focus on top-line speed," he said. "Today, business jet principals and operators demand—and expect—a consistent and reliable overall experience, wherever and whenever they fly."

That means connectivity hardware that always works and delivers dependable coverage and speeds. For Viasat, this shift to quality of experience led to the launch of JetXP service, which harmonized the company's legacy services under a single brand and introduced flexible, experience-based plans with benefits such as uncapped speeds, network prioritization, and expanded capacity. "This allows owners and operators to define the connectivity experience they require, and we deliver it," said D'Amico.

The company has also sought to provide continuous enhancements for in-service equipment with "minimal customer effort." For example, Viasat extended coverage into the Middle East and South America for customers with its GAT 5510 terminal via an over-the-air software update, according to D'Amico. It also recently connected the terminal to the ViaSat-3 satellite, offering better connectivity performance for jets flying routes to/from Hawaii without any hardware or software changes.

When its connectivity hardware does need repairs, Viasat deepened its support through its partner ecosystem, including Collins Aerospace, Gogo, and Honeywell, to ensure that customers receive a "premium, white-glove service



experience, backed by 24/7/365 global support." D'Amico noted that "our research shows that high-quality, responsive support is a key priority for principals, and we are dedicated to leading the industry in this area."

Meanwhile, Viasat is using artificial intelligence and machine learning to improve service through data intelligence, he said. In fact, Viasat has already deployed an AI analytics system that monitors global usage and demand patterns in near-real time. This allows the company to dynamically direct satellite capacity where and when it is needed most, optimizing the network to ensure a "seamless and reliable experience" for users.

NBAA|BACE®

OCTOBER 14-16, 2025 · LAS VEGAS, NV

LEARN MORE

nbaa.org/2025

Rescuing DOC: The resurrection of a B-29

BY CURT EPSTEIN

"Rescuing DOC" author and Wichita resident, Dave Franson spent years tracking down all the players in the epic story of the B-29's restoration and documented the painstaking process and the stories of how it all came together.

While many might consider Wichita's role in aviation history through the recent lens of the numerous Citations, Learjets, King Airs, and other aircraft produced by its manufacturers, the city has carried the sobriquet of Air Capital of the World since the late 1920s.

During World War II, Boeing's Wichita factory churned out more than 1,600 B-29 Superfortress bombers, and the story of how one of them returned as an abandoned wreck and was restored to become only the second of its type still airworthy is told by Wichita-based Dave Franson, a veteran aviation industry publicist.

Every story requires a protagonist, and in Franson's new book, "Rescuing DOC," that is Cleveland native Tony Mazzolini, who served in the U.S. Air Force during the Korean War as a flight engineer.

The first half of the book is relayed to the author as first-person narrative and describes how Mazzolini got the idea to rescue a B-29, his quest to locate a viable candidate for restoration, and the eventual hoops he was forced to jump through to gain title to the four-engine bomber that had lain forgotten at the China Lake weapon test range in the California desert for more than four decades.

DOC wasn't the first target as Mazzolini cast his net for a B-29. Indeed, it was possibly the last viable example left. His search followed up every trail of potential subjects, including one that had crashed and sunk in Nevada's Lake Mead, and even the ill-fated snowbound Kee Bird in Greenland (which would eventually be destroyed in a salvage attempt by another crew). A call to the Dugway Proving Grounds in Utah revealed that any aircraft or components there were permanently off-limits due to radiation contamination.

In conversation with contacts he had made at the Naval Weapons Center at China Lake during his quest, Mazzolini learned through an offhand comment that there was indeed one B-29 left there, "in fairly good condition." It was lingering in case a museum was ever installed at the base in the middle of the Mojave Desert.

Mazzolini and his small crew were finally given permission to visit China Lake to see it with their own eyes after his request bounced around the halls of the Pentagon. He had seen DOC—part of a squadron of B-29s named after the characters in Disney's animated "Snow White" movie—at a New York Air Force Base during his Air Force duty, and recounts his sense of wonder upon realizing that of the nearly 4,000 B-29s produced, this was the same aircraft abandoned in the desert. Mazzolini would then navigate the

byzantine maze of military and government bureaucracy for a dozen years until he was finally able to negotiate a resolution.

To gain ownership of DOC's carcass, Mazzolini was forced to accept a rather one-sided trade. He was required to obtain and restore a B-25 in U.S. Navy colors as a PBJ, which he could then barter with the National Museum of Naval Aviation for the transfer of the B-29's remains.

Exhuming the aircraft from where it had lain and removing it from the test range was entirely up to his group, and in the process, they had to satisfy various environmental regulations (including avoiding endangered desert tortoise burrows), which slowed the process.

Surprisingly, Mazzolini wasn't the only one with the idea of obtaining the relic, and other groups attempted to undercut him, but luckily for him, the authorities he dealt with recognized his claim as the first and never wavered.

In a monumental project such as this, financing was always a concern, and Mazzolini details the machinations as some of the backers attempted to conduct an end run and cut him out of the process.

Other problems involved miscommunications within various departments of the military establishment, one of which accused Mazzolini and his crew of theft of government resources. After satisfying all of the conditions set forth, Mazzolini finally found himself the owner of a derelict B-29.

Once excavated, DOC was eventually towed nearly 40 miles to Inyokern Airport, in the process making it "the longest and widest vehicle to ever cross a California highway."

Mazzolini's initial plans called for the work at Inyokern to progress to the point that DOC would receive a ferry permit to fly to its future home in Cleveland, where the restoration would be completed. But with the restoration stagnating, Mazzolini reached out to contacts at Boeing in Seattle who directed him to their Wichita facility, DOC's birthplace. He was told that if he could get that airplane to Wichita, "we can help you get it back into the air."

Once the airframe arrived in Wichita in segments, the narrative of the story changes to those among "DOC's Friends" who played large roles in its restoration, including Jeff Turner, v-p and general manager of Boeing-Wichita, who issued the original invitation that changed the bomber's course to Kansas. It was here that Wichita's storied aviation history shone; many of its residents worked in aircraft manufacturing and provided a skilled pool of volunteer labor.

The book details one man's obsession to restore a derelict B-29 to airworthiness.

The book describes the tedious tasks of restoring or finding replacements for 80-year-old parts and components, not to mention coordinating the work required to remove, reassemble, and attach them as the restoration dragged on. Many hurdles presented themselves. For instance, during its service days, DOC's cockpit instruments and gauges included radium-based paint to make them glow in the dark. All of them had to be removed and sent to a lab to be sanitized of radioactivity.

In 2009, in the aftermath of the global economic downturn, Boeing departed Wichita but with the pledge of $1 million towards the establishment of a permanent Kansas base for DOC. At that point, Mazzolini made the decision to sign ownership of the bomber over to a Wichita-based nonprofit 501 C3 organization, which maintains and operates the aircraft.

Finally, on July 17, 2016, the momentous day—one which many thought would never happen—occurred as DOC's four engines roared to life before a group of volunteers, dignitaries, and media, and the big silver airplane left the ground for the first time in more than half a century.

After all that work, DOC needed a permanent home, and Franson details the negotiations, planning, and construction of its purpose-built hangar and museum at Wichita Dwight D. Eisenhower National Airport (KICT) as well as provides a walk-through of all the exhibits.

Franson noted that after a career spent learning about, observing, and writing about airplanes, it was no surprise that on his retirement, he would choose to write a book about DOC's journey.

"DOC is Wichita with wings," he told **AIN**. "Building the B-29 during World War II exemplified that pride as the local workforce worked around the clock during 'the Battle of Kansas' to produce the first B-29s to enter the conflict. When, nearly 60 years after the war ended, an opportunity to restore one of only two airworthy B-29s landed in Wichita, the community's pride, patriotism, and perseverance re-emerged. Today, they embrace the airplane as a symbol of Wichita's aviation heritage and a tangible means of honoring the Greatest Generation."

For anyone who has ever thrilled at the sound of vintage aircraft engines throttling up, "Rescuing DOC" takes you on the full flight, from the lowest of lows to the highest of highs, in one of the most audacious and improbably successful aircraft restorations in history.

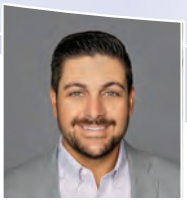
Evolving maintenance with data and SMS

BY KERRY LYNCH

The maintenance sector is rapidly evolving as data adoption becomes much more prevalent and new requirements are looming in some regions for safety management systems. **AIN** brought together thought leaders in the industry to share insights on how data and safety tie together and how it is reshaping the sector. Here are highlights from that discussion. *Duncan Aviation sponsored this roundtable.*

AIN ROUNDTABLE


KASEY HARWICK


GREG HEINE


R. DAVID (RD) JOHNSON


BILL MOLLOY

THE PARTICIPANTS:

- **KASEY HARWICK—EXECUTIVE VICE PRESIDENT AND COO OF DUNCAN AVIATION IN LINCOLN**
  Harwick is a 26-year veteran at Duncan Aviation, joining the Lincoln, Nebraska location in 1999, initially in completions on green Astra SPX aircraft. He has since moved into positions of increasing responsibility from lead technician to program manager, director of maintenance, and v-p of aircraft services and quality, among others. Duncan Aviation is one of the largest business aviation MROs in the U.S., with locations in Provo, Utah, and Battle Creek, Michigan, in addition to Lincoln. Alongside them are more than 30 satellite locations and rapid response teams.
- **GREG HEINE—EXECUTIVE VICE PRESIDENT OF MAINTENANCE SOFTWARE FOR JSSI**
  Heine joined business aviation maintenance support and financial services provider Jet Support Services, Inc. (JSSI) in 2023 to spearhead the company's growing maintenance management, MRO, and inventory management software portfolio. He brought 15 years of aviation and software experience with him, previously as president of Flightdocs and before that, chief strategy officer and chief marketing officer for ATP (now Veryon). JSSI supports more than 6,000 aircraft through its maintenance and software programs, as well as offers parts and leasing, aircraft operating data, and advisory services.
- **R. DAVID (RD) JOHNSON—VICE PRESIDENT OF SAFETY FOR JET LINX**
  Johnson joined Jet Linx in 2021 after serving as director of safety management systems for Global Flight Test and Delivery Group. He brought extensive experience in flight and technical operations across the military, commercial, and general aviation sectors, including with American Airlines and the U.S. Air Force in active duty and the Reserves. Jet Linx offers aircraft management, joint ownership, and jet card membership services, with more than 20 locations nationwide.
- **BILL MOLLOY—VICE PRESIDENT OF AFTERMARKET SALES FOR BOMBARDIER**
  Molloy stepped into his current position with Bombardier in November 2023 after serving as COO for engine MRO TES and, before that, as COO with Killick Aerospace Group. He has nearly 35 years of aviation experience spanning regional, commercial, and business aviation. In addition to offering a portfolio of super-midsize and large-cabin business jets, Bombardier has built an extensive customer support network with company-owned service centers, line stations, mobile repair teams, parts depots, and authorized service centers worldwide.

THE DISCUSSION

ON HOW THE MAINTENANCE SECTOR IS CHANGING

KASEY HARWICK ▶ It is an interesting time in aviation. We always talk about supply chain; we talk about workforce development. But when you think about the aviation industry, sustainability is the top of everybody's mind.

Green technologies are coming online. We're seeing hybrid-electric aircraft, which are going to be new for everybody. FBOs have been built around conventional fuels, but now they're building up power stations to support these [electric] aircraft. I think that changes who we are and how we operate as AMTs [aviation maintenance technicians]. Traditionally, you go through the airframe, powerplant track, maybe an avionics track, but between connectivity and CMS upgrades and eVTOLs coming out, there are going to be more dynamic technicians as we see it unfold.

On top of that, cybersecurity and compliance are starting to ramp up quite a bit, with the healthy push from EASA. They're focusing on aircraft systems, maintenance software, and digital records. Digitalization of records is a growing trend. We're starting to see that the exchange of papers is no longer occurring nor is taking a physical hard copy. Digitizing it is truly creating data that's being shared across multiple operators and organizations.

GREG HEINE ▶ JSSI touches thousands of maintenance events every year. Then on the Traxxall side, where we provide maintenance tracking software to operators, we're working with thousands of different operators and are their technology partner when it comes to maintenance. To build on what Kasey was saying, we're seeing data being more important than it ever was before. Back when I started...even in 2009, I think aviation was still behind a lot of other industries in how much paper we were using. Maintenance was being done, it was being recorded, and a lot of this information wasn't being leveraged to the benefit of the maintenance providers or the operators.

Today, we're seeing that they're really trying to tap into this information to get better info on reliability. When we go in for scheduled maintenance, we're pretty sure that there's going to be unscheduled maintenance findings that come out of that. There's a lot of focus on leveraging new technology to tap into data to reduce the amount of downtime for aircraft, so as we plan for the future, we can do a better job at planning for those future maintenance events.

RD JOHNSON ▶ Greg said some things that are near and dear to my heart: How long is the airplane going to be out of service? The better we can be predictive versus reactive, the more we will have the metrics we need. By doing so, we can look to the future and say: How do we want to address those issues? We're looking to put that aircraft back in service as quickly as possible, as efficiently as possible.

In the future, we're going to have to look at how are we doing this with the green; how efficient are we being, and what are we doing to retrofit some items so that we're not hurting the world.

BILL MOLLOY ▶ It's pretty impressive that over the last maybe five to seven years, we've seen a lot more tech guys getting into our industry, buying aircraft. They have a different mindset with data; technology is something that's second nature to them.

I say internally that data is extremely important. But Bombardier doesn't want to lose sight of the fact that it is a people business. Business aviation is all about the people. It's all about making sure that the experience is what it needs to be and that our customers want to come back.

Looking at maintenance, the big challenge we all have is getting technicians. We're spending as much time on technician retention as we are on recruitment, which is very different. We're all having to step up to the mark and provide a much better environment for these technicians to come into.

The training side is very big for us right now. We're building what we call an incubator, which will be housed in our Wichita facility. Every technician that we bring in will go through that incubator and be trained on the Bombardier way. That's something that we feel very excited about.

On the data side of things, I just reviewed the numbers. We've got nearly 400 aircraft that are in our network today, whether it's scheduled or unscheduled maintenance. You can just imagine the amount of data that you can collect on 400 aircraft today. It's powerful, and I think we all see that. We're all spending a lot of time and putting a lot of effort into understanding that data and making it work for ourselves and for our customers.

ON HOW COLLECTION OF DATA IS CHANGING MAINTENANCE AND IMPROVING EFFICIENCY

BILL MOLLOY ▶ It was probably back in 2017 when we made a statement that we wanted to put a [Smart Link Plus] health monitoring box on every aircraft. The aircraft that we are delivering from the factory have the box pre-installed. Then, we retrofit the existing fleet. Data has always been part of our business or part of our industry. If you look at engine health monitoring, that's been out there for well over 30 years. But what's changed is the scope and availability of the data through these health-monitoring boxes.

We believe the future of the industry is locked down in [data such as from] our Smart Link Plus box. To offer real-time data while the aircraft is flying is extremely powerful. To be able to analyze the data coming from the aircraft and manage that data is something that gives us a step ahead.

Bombardier's Smart Link Plus records aircraft data that allows flight and maintenance crews to proactively troubleshoot aircraft in-flight fault notifications.

Ultimately, this is all leading to some time in the future where you have preventative maintenance that you can use from data. It can be part of how you manage the fleet of aircraft on a day-to-day basis. We're not there yet, but we're making strides. The more and more boxes that we get on aircraft, the more information that we're getting, and the more customers are starting to understand the power of having this data available.

When we look at our aircraft that are on the market, we're starting to see there's a differential with an aircraft with the records, a box already installed, and a history that you can provide. That gives the buyer much more confidence than if you don't have that information or there's no box installed. Buyers will certainly pay for that.

GREG HEINE ▸ We're leveraging a lot of technology internally at JSSI, which ultimately helps our customers. We're taking data from all different inputs and looking at ways to structure that, create uniformity across it, and that helps us in projecting out maintenance—figuring out when we need to start planning maintenance, who has capacity, and who is available to execute this.

Operators are also getting data inputs from all different sources, whether it's the aircraft itself or from multiple different systems. That's an area in the last couple of years that has really advanced.

We're seeing more and more systems talking to each other. As you look at a flight operation, there are often silos between maintenance, inventory, finance, accounting, and flight operations. These are all different systems with different sets of data. In the past, these systems didn't talk to each other. There was either no movement of data between them or manual movement of that data, which is messy and time-consuming.

Operators were sitting on a lot of this data without the opportunity to look at it in a holistic way and take action on it. One of the things that we've done through Traxxall is to be integration-friendly. We integrate with a lot of different flight operations software providers. We're looking at new types of providers, like SMS providers, to do integrations with to make this whole process seamless.

One of the other areas that we see struggles with is that there are so many systems within a maintenance operation or a flight operation that we find that users can get fatigued with "I got to go here for that, I got to log into that." The whole process is becoming a bit cumbersome. It's probably better than it was in the past when all this stuff was on paper checklists and tech logs. But still, we're just trying to create this seamless environment where data can be passed back and forth to the right places.

KASEY HARWICK ▸ First off, what Bombardier is doing is pretty impressive. When you think about real-time monitoring of aircraft, that's where we get into that condition-based monitoring, where we're looking at the component level, determining whether it is time for this part to be changed versus waiting for it to break on the aircraft. It's looking more at scheduling and what is necessary.

Our goal as an MRO is to make sure aircraft continue to fly. For us, that's really where that data comes in. We've had electronic work orders for over 17, 18 years. Up to about five years ago, we've used it for simple purposes, but we realized that every day we're generating gigabytes of data, and we should be crawling through that data to better understand forecasting, to better understand our performance, and to better understand routine squawks.

With data today, we have aircraft come in for a scheduled maintenance check, and we have each task code lined out there where we can identify every time we do this one inspection, where are the squawks that are getting yielded and where we need to be able to react.

We developed an AI team a couple of years ago, where we wanted to look at when we see an aircraft, is it the first time we're seeing them? What region does it operate in? How does it operate? How old is the aircraft? We take all these factors in to try to come out with the best schedule to make sure that we are allotting the appropriate downtime. That way, RD and his team can schedule [Jet Linx's] ops with confidence that we will hit that target out date.

RD JOHNSON ▸ That's one of the things we track almost daily—what's the availability of our aircraft, and are they on time for delivery when they're coming from the MRO? To piggyback on aircraft monitoring, it's very important not only to see when a part needs to be replaced and ones that are failing, but also how efficient is that engine

DUNCAN AVIATION

COMPLETE BUSINESS AIRCRAFT SERVICES

WATCH THE VIDEO BRIEFS

www.DuncanAviation.aero/video-briefings

and how much fuel am I using. I'm not only just looking at it from the mechanical side of the house, but did I fly it properly, did I fly it efficiently, or was it the airplane or was it me?

That's so important because that's a big cost for our company, the number of flights we have per day. AI can provide that predictability. If Greg can tell me that we need to change the pressure controller because we're monitoring the airplane and at 562 hours it needs to be changed, then I go to Kasey and that's in the work order. That's the collaboration that we're doing between the manufacturer, the trackers, and the MROs so that the airplane's not out of service very long. It's put back into service as quickly as possible. And hey, I get to fly one of my clients or customers wherever they want to go tomorrow.

Duncan Aviation has invested significant time and money in its safety management system.

ON SAFETY MANAGEMENT SYSTEMS

RD JOHNSON ▸ With the SMS program, we have different facets of it, but probably the biggest tool that we have is how we are communicating between the departments. Greg mentioned that we couldn't be in silos. We just can't be in silos. I have to be in concert with our quality assurance team and our maintenance team to make sure that we're providing the airplane in a ready fashion and an airworthiness fashion as quickly as possible.

When we put out a company newsletter on the safety side of the house, we're talking about what do the teams see as to reliability and what happened. What were the events that we had happen in the last month or three months?

It's the data tracking, it's the communication, and then it's the publication of how we are doing. If we don't attempt a solution set, we fail. We have to say, "Here's what we think is the best manner to do that." And that's the communication between the teams, because an A&P is going to look at it a little bit differently than a pilot, and I'm going to look at it a little bit differently than an A&P. Then also, the MROs got a great hand in this too, and the manufacturer. It is a big combination of how we make it better.

The best thing, overall, that we've done in safety is that we're not punitive. When I find out something, I'm not being punitive to the A&P because we hired him for a reason. I want to retain him. I just want to correct something that needs to be corrected. Then we're quite open with our partners from the FAA. We allow them to see behind the curtain at everything, so it's a great partnership across the industry.

You need a robust program. Organizations like we're at, or like JSSI or Bombardier, or Duncan, are so large that we have to have some software and some AI to assist us. We just can't track this manually. It can't be in my head. Then we have to be able to pass that down to the next guy. Let's train him or her and get them ready to work with all of our partners so that we can be as safe as possible tomorrow.

KASEY HARWICK ▸ We employ our SMS program in a very similar manner. We have an SMS in our FBO, our flight department, and our MRO. They're pretty much in lockstep as an organization. We had developed our own reporting software, and we meet weekly to go over event reports. We are trying to continuously improve. That's the mindset we need to have. All of our team members need to feel safe in reporting. Having that just culture is very important.

When I first started 25 years ago, we would make a mistake. We'd put a squawk in the work order, we'd bring in the customer to discuss the situation, and then we correct that mistake and move on. Now we're reporting everything that we're doing in our work orders, which then reports up into our SMS system. That way, we have lessons learned, and we can track and trend that data. A lot of times, we're seeing somewhat of a lagging indicator. So we're trying to pivot where we get into more of a leading indicator.

The unique part about Duncan is that in 2023, we became a single certificate—one repair station—and it's been building up for literal decades to get to that point. But as an organization between our three MROs and our 27 AFLs [satellites] out there, we've operated under one RSGOM [repair station general operating manual]. We started implementing a form of SMS roughly 15 years ago. It has been part of

who we are for the past 10, 15 years, and it's gaining traction. That's the neat part.

BILL MOLLOY ▸ We have implemented our SMS program across all of our facilities. Within Bombardier, safety is the first thing that we talk about at every daily management meeting that we have. We recently brought on a new leader for our SMS program.

The objective for us is that it's all about the culture. It's all about making sure that we're looking for best practices. We're making sure that there's a threat-free environment to bringing things forward. And we're learning from those observations.

Ultimately, this is something that we are impressing upon our people. We want people to come to work for Bombardier, but we also want them to go home and have their five fingers and five toes. That's an important way of letting them know that we care about them.

I think the safety culture within Bombardier is very strong. It's fully entrenched in everything that we do on a day-to-day basis.

GREG HEINE ▸ With Bill, Kasey, and RD, these are some of the larger organizations in our industry, and I think for a long time that there's been a push for safety and SMS systems within these organizations. But as you start looking at some of the smaller operations, that level of implementation starts going down.

It's not a blanket statement. There are really small corporate flight departments that have incredible safety programs, but it starts getting more spotty. There needs to be a push for education around the importance of it, what it means, and how it gets managed.

One of the struggles we're seeing is in that implementation. But, as time goes on, going back to the technology aspect, we can use tools to help us get this information out of our heads or out of spreadsheets and bring it to the surface. I think we can see better implementation across the whole industry.

ON WHETHER OPERATORS CONSIDER SMS IN MRO CHOICE

KASEY HARWICK ▸ The simple answer is yes—aircraft operators are increasingly seeking MROs that have established SMS. It is becoming the industry standard. Even though it's not mandatory today, organizations that have taken the time to implement SMS or even some form of SMS show that they are very safety-conscious and they are making sure that the maintenance is of the highest quality that could possibly be. I do think that from an international side, we saw that quite a bit more. But now domestically, we're seeing that as flight departments are bringing on their SMS, we are being asked to share our event reports, our findings.

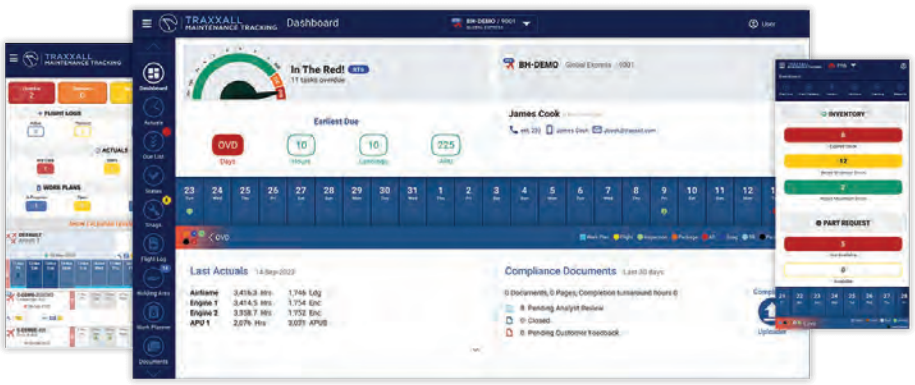
RD JOHNSON ▸ It's integral to the business. One of the highlights of what I get to do is change management. When we're doing something new, it involves safety. Recently, we went to an upstart MRO, and they brought me along as the safety manager. I just watched as an operator and a safety guy to see how they were doing. I don't think they were really doing along the lines of what Bill said about keeping all their fingers and toes. When it was over, the executivev-p says, "What'd you think?" I go, "Well, they're not rookies, but they need a lot of help with SMS." They had great people and great ideas, but they weren't up to the standards of some of the major operations.

You can't be so interested in cost. You have to be interested in doing the right thing. And that's a culture decision. What's your culture? What is most important? At Jet Linx, we shut down one day a year to just all talk about safety.

But when you're looking at that MRO, when I'm looking at it, are they using SMS? Is it really their culture, or are they just given some lip service? And when the executive v-p says, "What do you think?" I say, "They need a little bit of help here, and I'll be glad to help them."

BILL MOLLOY ▸ We have a pretty strict supplier compliance document that any supplier of services or parts provider has to agree to. More recently, we have added SMS-type references. We are expecting that they should have a similar type of program in place. We have a saying that we use with our people: "Bad news quickly, good decisions fast, and do the right thing." What we're saying is that we've had to create an environment where when things don't go as planned, you can't hide those.

You have got to let the relevant stakeholders know what's happened, and then you've got to recover as quickly as you can, but you've got to do the right thing. And sometimes doing the right thing costs you more money. But if people feel comfortable that you're



JSSI's Traxxall software provides comprehensive maintenance tracking.

Jet Linx shuts down operations entirely once a year to hold a safety event for all employees.

walking the talk, it brings it alive for people. It makes it real.

ON QUALITY AND BEST PRACTICES

KASEY HARWICK ▸ By the way of quality, the easiest thing to do is have the established technical publication, policy, or procedure, and following that, paper manuals. I know we're all in the digital world, but as a technician, I loved having a paper copy right there in my hand. As I was doing a task, I checked them off as I went, because there were so many distractions in an MRO.

In our paint department, we created an operating procedure manual years ago, because at the time, a lot of the paint instructions weren't found in the maintenance manual. Creating that helped us align with a standard operating procedure on how we're going to conduct a paint on each make and model. Also, along the lines of quality is tool and equipment calibration, ensuring that we have a robust schedule to make sure that the tools that we're utilizing have not drifted and that if there is a drift, we can trace back to the number of aircraft where it has been utilized.

On quality assurance audits, we have our own audit team at Duncan that routinely goes through the MROs and the AFLs to make sure that we are saying what we're doing, but also with training and certification. The more training we can have as an industry, the better off we are. Taking institutional knowledge and getting it into the new generation of technicians is huge.

We're seeing a lot of folks that are retiring out—a lot of Charlie Taylor Awards [for 50 years of service] are being administered each year right now. And that's a lot of knowledge leaving our industry. So how do we capture that knowledge and bring it back in?

By way of training, we've created what we call the Duncan Aviation Knowledge Base, where we can query our work orders. That way, we can take those elements and not try to reinvent the wheel and not try to come up with a new way of troubleshooting. It's right there. Data is showing you this. It's about trying to get that institutional knowledge back into the organization, out of individual hard drives or drawers, and trying to get that digitized to be able to have accessibility across the network.

BILL MOLLOY ▸ It starts with the ecosystem. We pride ourselves on that if you're buying a Bombardier aircraft, Bombardier has a very robust, wholly owned network that we continue to grow. But we also have in the likes of Duncan Aviation a very strong partner that is an extension of our ecosystem. We don't choose lightly.

As for what we're doing with employees and technicians specifically is the incubator. We brought on a lot of technicians last year, like everybody has, and we felt that a lot of them didn't survive the first couple of months because when we started to assess them, we didn't believe they hit the mark for us. So, one of the ways of moving that away from the floor is the creation of the training incubator. We are going to put our new technician starts through a robust training program for the first couple of months that they're with us so that we can assess at the end of that period whether they should go to the floor, whether they need additional training, or maybe it's not a fit. That's certainly something that we believe is going to yield good results.

The other thing we've done is we have people within our facilities now—we call them the guys with the green shirts. You'll see on the floor at Bombardier an ever-increasing number of green shirts. These guys are the floor coaches. They're helping to address any situation that comes up. They're observing to make sure that best practice is being performed. From a safety standpoint, having a look at what's being done is essential for us to instill best practices throughout our organizations.

GREG HEINE ▸ The level of detail and how much customers focus on the quality of their data and what's being performed on their aircraft can vary. We have operators that are very in tune with everything that's being done on their aircraft and in their operation. I would say that a message to the industry is that we need more focus on compliance and quality across all operators. Really the buck stops with them.

They're responsible for the airworthiness and the operation of their aircraft. I think one of the gaps is around their reliance on some of the vendors and saying, "They're going to take care of the maintenance. We're going to be good to go." But sometimes they leave a facility, and they're not checking as detailed as they should

continues on page 56 ›

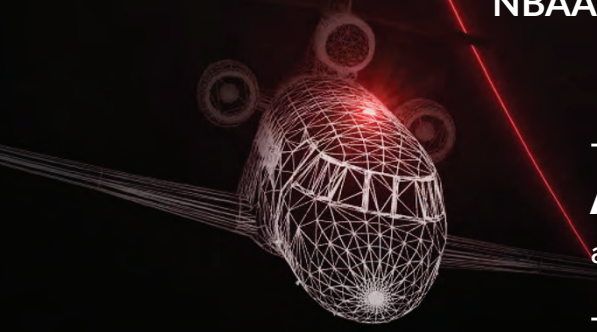
Join us for lunch!

JetWave X & Beyond:

Elevating In-Flight Connectivity

Wednesday, October 15, 2025

NBAA-BACE | Las Vegas, NV | 12:00–1:30 pm PT



The 2025 NBAA Luncheon, co-hosted by **Honeywell Aerospace** and **Viasat**, brings together leaders in business aviation to explore the future of in-flight connectivity.

This exclusive event will feature key updates from both companies, highlighting innovations that are shaping the passenger experience and operational capabilities in the skies.

Attendees will gain insights into Honeywell's next-generation JetWave X solution and Viasat's advancements in satellite technology, plus a collaborative study with MIT on business aviation connectivity trends.

Seating is limited so register today!

Lunch will be served.

connect.ainonline.com/ain-nbaa-2025

Panelists include:

Jason Wissink
President
Honeywell Service and Connectivity

Kai Tang
Head of Business Aviation
Viasat

Michael Schrage
Research Fellow
MIT Sloan School of Management

Hosted by: AIN Media Group

Sponsored by: Honeywell Viasat

Accelerating innovation at Le Bourget

BY CHARLOTTE BAILEY

DAVID MCINTOSH

Anduril's XFQ-44A collaborative combat aircraft on display in full-scale form for the first time at the 2025 Paris Air Show

"Necessity is the mother of invention," the old adage maintains, referencing the impetus with which elevated need drives the development of new technologies. Certainly, the mood at the June 2025 Paris Airshow recognized—as ever—the requirement for new and evolving innovation across the aviation and aerospace ecosystem.

However, this year's show seemed infused with a sense of urgency, expedited by an underlying sense of realism not just in what is required but what is technically feasible. Whether defense applications or decarbonization endeavors, optimistic rhetoric seemed to take a back seat to acknowledging what can be practically and expediently delivered.

To set the scene: the French aerospace sector has long enjoyed a favorable funding position compared to other European peers. Just days before the show, the French Council for Civil Aeronautics Research (CORAC) announced its renewal of an annual €285 million budget, something French aerospace industries association GIFAS states supports more than 320 active projects across the country.

National and private funding support was evident through the presence of various exhibitors, from hydrogen-electric aircraft developer Blue Spirit Aero, which revealed its full-scale prototype just weeks before the show, and Aura Aero, which led the opening day's flying display with its all-electric Integral E trainer. Both have received investment from France's Occitanie region and French public investment bank BPI, amongst others.

France has long championed the evolution of established and start-up European players. However, with the world undeniably shifting ever closer to a war footing, rising geopolitical tension is facilitating crossover between companies by leveraging commercial expertise to hasten innovation and accelerate integration.

DUAL APPLICATIONS

Although Aura Aero received EASA certification for its inaugural two-seat light trainer in December 2024, a separate military-focused business model (dubbed M) unveiled in February this year indicated the Toulouse-based start-up's willingness to diversify its interests. This also included a potential militarized version of its upcoming hybrid-electric

19-passenger regional Era aircraft, named the Intruder.

"This will enable Aura Aero to be stronger and utilize both application cases to accelerate decarbonization and share development costs," explained Jérémy Caussade, co-founder and CEO of Aura Aero. Era is due to make its first flight in 2026 before a projected entry into service by the end of the decade.

Certainly, other companies (notably, also starting as all-electric clean-sheet aircraft developers) are considering the attributes of their aircraft applicable to military missions. Archer is partnering with U.S.-based defense technology company Anduril to, as the. eVTOL developer announced in December 2024, "jointly develop a next-generation aircraft for defense applications."

With Anduril senior v-p of engineering Shane Arnott believing "rapid innovation and scalable production are critical for maintaining technological superiority," Archer reiterated its ability to "rapidly develop advanced VTOL aircraft using existing commercial parts and supply chains." The resulting partnership would "accelerate speed to market for critical hybrid VTOL capabilities at a fraction of the cost of the more traditional alternatives," it concluded.

Rival California company Joby has also committed four eVTOL aircraft to U.S. Air Force bases as part of its $313 million contract with the Department of Defense, part of the U.S. Afwerx Agility Prime program.

Over in the UK, Vertical Aerospace CEO Stuart Simpson also announced that "as the only remaining credible European eVTOL company, Vertical's hybrid-electric capabilities position it as a key player amid growing defense budgets and increasing focus on sovereign industrial capability."

HYBRID PROPULSION SYSTEMS

Vertical Aerospace and Archer Aviation have both already announced (in May 2025 and December 2024, respectively) that hybrid variants of their aircraft are under development. This move away from exclusively all-electric concepts is complemented by Joby Aviation's hydrogen-powered work, development carried out adjacent to its main project. Following on from the June 2024 523-mile record-breaking flight of its hydrogen-electric demonstrator, Joby appears to have flown a further nine-hour mission of a subsequent uncrewed demonstrator in July 2025, as per ADS-B data. Viewed by some as a complementary capability, others as a compromise to the original concept, it seems the era of the all-electric eVTOL may not yet be upon us.

SHANE ARNOTT
ANDURIL SENIOR V-P OF ENGINEERING

Whether teaming hydrogen or conventional thermal capabilities with electrical power, hybrid propulsion architectures seem to be gaining in popularity. Perhaps indicative of an industry with a more conservative view of batteries' current range restrictions (certainly for larger aircraft or longer missions), all-electric aspirations may prove elusive for now. (Although VoltAero revealed a new single-tailed aircraft configuration, ditching the previous twin-boom layout, no new all-electric concepts were launched at the show.)

One initiative embracing hybrid propulsion systems is a newly formed Daher-led French consortium, following in the footsteps of the recently concluded EcoPulse program. This previous hybrid-electric distributed-electric-propulsion project "has not only helped [Daher] design an operational system for a demonstration prototype but also tackle critical technological hurdles," explained Daher chief technology officer Pascal Laguerre late last year.

A new two-year research consortium including Safran, Collins Aerospace, and Ascendance will now look to "study and define a hybrid-electric propulsion architecture for light aircraft with optimized propeller efficiency," revealed Daher at Le Bourget. Supported financially by the French civil aeronautics research institute CORAC and the French Directorate

Joby committed four eVTOLs to U.S. Air Force bases as part of its contract with the DOD.

General for Civil Aviation (DGAC), the TAGINE project will present its first environmental assessment results by the end of the year.

Although EcoPulse consortium member Airbus is not joining the new venture, it is collaborating with French start-up Ascendance to jointly explore hybrid-electric technologies. "This partnership with Airbus validates our vision: delivering practical, realistic technology that meets the demands of modern aviation," commented Ascendance CEO and co-founder Christophe Lambert. Ascendance announced at Paris that its Sterna modular hybrid-electric propulsion system will be available to other aircraft developers, combining a Turbotech turbogenerator with Safran electric motors. The first aircraft set to employ the system will be Ascendance's Atea hybrid-electric VTOL aircraft, with the first full-scale prototype expected to be fully assembled in early 2026.

Aura Aero's MALE drone concept, dubbed Enbata.

DRONING ON?

Meanwhile, the imminent need to increase and augment national technological sovereignty was prevalent within the uncrewed aerial vehicle (UAV) space, with European companies also looking to explore ITAR-free (International Traffic in Arms Regulations) options that reduce reliance on U.S. exports.

The urge to bolster European production and distribution was evidenced by Anduril's 'Fury' Collaborative Combat Aircraft, which made its debut with German defense firm Rheinmetall. European manufacturing of the so-called loyal wingman drone will benefit from "leveraging modular subsystems interoperable with commercial off-the-shelf hardware," explained Anduril. First flights are due this summer.

Dassault Aviation also unveiled its own single-engine uncrewed combat air vehicle, optimized for use alongside Rafale fighters, intended to be operational by 2033.

However, alongside established defense players, the capabilities of civil companies are also being applied to potential uncrewed military applications, embracing the design, manufacturing, certification, and supply chain management expertise these aerospace experts bring.

The French defense procurement agency's (DGA's) recognition of its current capability gaps was highlighted by its commissioning of five companies to develop a Medium Altitude Long Endurance (MALE) drone demonstrator, a type of uncrewed aircraft typically used in surveillance, reconnaissance, and light attack roles.

Signing agreements with five emerging and long-standing companies represented a "decisive step in accelerating the MALE drone strategy of the Armed Forces Ministry," explained the DGA, adding: "They will make it possible to create the best operational solution while respecting time and cost constraints."

Crucially, the five selected candidates' solutions will differ in range, payload, and estimated list price, representing a diverse approach to creating a product range that will benefit both French armed forces and potential export opportunities. The agility of the companies selected is perhaps indicative of the DGA's requirement for a remotely piloted flight demonstration and full technical specification by the end of 2026, a testament to the tension of the times we live in.

Daher's has partnered with Thales to provide what the former termed an "immediately operational 'plug and fly' solution based on a certified CS-23 [light aviation platform]," such as Daher's existing TBM or Kodiak aircraft. "This approach simplifies integration and accelerates deployment," explained Daher's Laguerre, stressing that the adoption of existing architecture could see an airborne demonstration (potentially crewed or uncrewed) achieved in just six months.

Aura Aero's MALE drone concept (dubbed Enbata) also leverages the French startup's design, manufacturing, and certification expertise. The UAV will have a maximum weight of around two tonnes and be able to carry around a tonne of payload for flights lasting up to 55 hours. "By reusing the technological building blocks developed for... Integral and Era [aircraft], this SME is taking on a new challenge," explained general Stéphane Mille, former chief of staff of the French Air and Space Force.

Corporate Angel Network (CAN) provides cancer patients free seats on jet and turboprop business aircraft to treatment throughout the United States.

Thanks to the generous support of our partners, CAN has coordinated more than 69,000 patient flights. Can you spare an empty seat or donate to our mission? The space you fill may well be in your heart.

CAN

Cancer Patients Fly Free.

107 Mill Plain Road, Suite 204 | Danbury, CT 06811 | (914) 328-1313 | corpangelnetwork.org

Third-party safety audits: Worthwhile or an illusion of safety?

BY STUART "KIPP" LAU

Audits are an important step but safe operators also participate in a variety of safety programs.

Aviation charter customers have many choices when it comes to picking an operator. The savvy ones research operators to find the best and safest fit for their trip, to ensure the safety of their employees, family, or friends.

Third-party audits, ratings, and certifications are widely used to establish a safety and quality standard for charter operators. In the past, many audits were simply a "paper chase" exercise. Today, most experts agree that a safety audit will validate an organization's structure, ensure compliance with applicable regulations, and may even provide an opportunity for continuous improvement through mentoring and leadership training.

But here's the rub: aviation is inherently dangerous, and there are charter operators that simply don't make the grade. As demonstrated, in recent and past business aviation incidents and accidents, according to reports, some operators often had multiple top-level safety "designations" issued from different organizations—yet they still crashed.

ROBERT SUMWALT III
FORMER NTSB CHAIRMAN

Former NTSB chairman Robert Sumwalt III called this an "illusion of safety" when a charter company uses these industry safety ratings in their marketing material. Sumwalt made these comments during a public hearing following the crash of a chartered Hawker 700A in Akron, Ohio, that killed nine people. The NTSB categorized this 2015 accident as "a disturbing accident after an unstable approach that raises serious questions about an operator's procedures and culture."

Sumwalt commented, "I'm concerned that an organization that had so many safety-related issues could have an Argus Gold rating and be Wyvern Registered. Discriminating customers look to, and trust, such 'seals of approval' when selecting their air travel provider."

For the charter customer, how can you measure the safety of an aircraft operator? For a better understanding of third-party safety audits, ratings, and certifications, let's learn more from a cast of air charter safety professionals.

PROFESSIONAL SAFETY INSIGHTS

Wyvern CEO Sonnie Bates has a long history of developing safety audits and leadership development programs for business aviation managers. He spent more than six years as an International Business Aviation Council (IBAC) director formulating and evolving the IS-BAO audit—a globally recognized audit standard.

According to Bates, "The standard of standards is ICAO Annex 6 Part 1. This is what the Part 121 carriers are held to. IATA further develops these standards to create the IOSA audit. IBAC aligns with ICAO Annex 6 Part 2 (Private Operations), but to a limited degree with Part 1, so not to offend and lose Part 91 private operators who do not want to be scrutinized to the level of a commercial operator."

Bates is convinced that the real value and future of third-party engagement is in structured programs that provide ongoing coaching and leadership training. He provided some insight on audits at a basic level: "No audit or certification 'ensures' safety. However, they are an indication of commitment to a healthy safety culture. The most highly audited and monitored aviation system in the world (large Part 121 scheduled international air carriers) [can] still have accidents and serious incidents."

JetChecked founder Mike Ruic believes that "these third-party certifications are not worthless, but they are far from a guarantee." Ruic's company provides safe and secure end-to-end private aviation services to high-net-worth individuals and Fortune 100 companies.

Ruic cites several recent examples, such as the 2021 crash of a Gulfstream IV in the Dominican Republic that killed nine people, including music producer Flow La Movie and his family. This charter operator held third-party safety certifications from two different companies. Ruic added, "Investigations revealed maintenance issues with the spoiler system, despite the flashy certifications on their website."

> "No audit or certification 'ensures' safety. However, they are an indication of commitment to a healthy safety culture..."
>
> — Sonnie Bates, CEO, Wyvern

In April 2025, a chartered Gulfstream V was destroyed in a runway incursion accident in Mexico. Fortunately, no lives were lost. What's concerning, according to Ruic, was that "this operator had a troubling history with FAA civil penalties, unqualified pilots, and the accident pilot was once arrested with a blood alcohol level four times the legal limit." According to the operator, at the time of the accident, it had the highest independent safety ratings from Argus, Wyvern, and IS-BAO.

Ruic hinted that there may be a better way. At JetChecked, "we only work with operators who treat these audits as a starting point, not the endgame. We dive into FAA enforcement histories, pilot qualifications, maintenance culture, and flight-by-flight vetting. That is where real safety lives, beyond the badge."

Recently retired Air Charter Safety Foundation (ACSF) president Bryan Burns believes charter customers, due to recent high-profile accidents, are becoming more educated and are asking more pointed questions. Burns said, "They are much more aware and are now beginning to question charter operators about their internal safety programs, including safety audits."

According to Burns, "the ACSF feels strongly that third-party audits offer several key benefits including an unbiased assessment, compliance verification, improved safety culture, operational efficiency, enhanced credibility, risk mitigation, and an assessment of a company's emergency response plan."

In addition, Burns said, "We are a big proponent of the 'Pathway to Safety' when it comes to small to medium-sized operators who typically lack time and resources to participate in various safety programs. Audits are just part of the process. Safety programs like just culture, SMS, ASAP, and FDM all complement one another when mitigating risk. If you think about it, it's why airlines are considered the gold standard. They proactively participate in all these initiatives."

Private Aviation Safety Alliance (PASA) president Jessie Naor is no stranger to business aviation and is passionate about aviation safety. In the past, she founded and served in several leadership roles at a large private jet and helicopter charter company and is now the host of "The VIP Seat" podcast.

Naor described a wide range of third-party audits. Breaking it down, she said, "It depends on the auditor. The lowest levels range from simply verifying the operator has a 135 certificate and no accident history in the last few years," while cautioning that much is subject to the auditor's discretion. She continues, "At the other end, there are onsite audits of the firms' operations; some occur every two years, and some programs include quarterly reviews. While they don't ensure safety, I would be much more

trusting of an operator that agrees to quarterly programs that include onsite vetting.

"If you're going to be in the business of aviation, why wouldn't you have a third party challenge your programs?" Naor asked. "That's what continuous improvement and dedication to safety is all about."

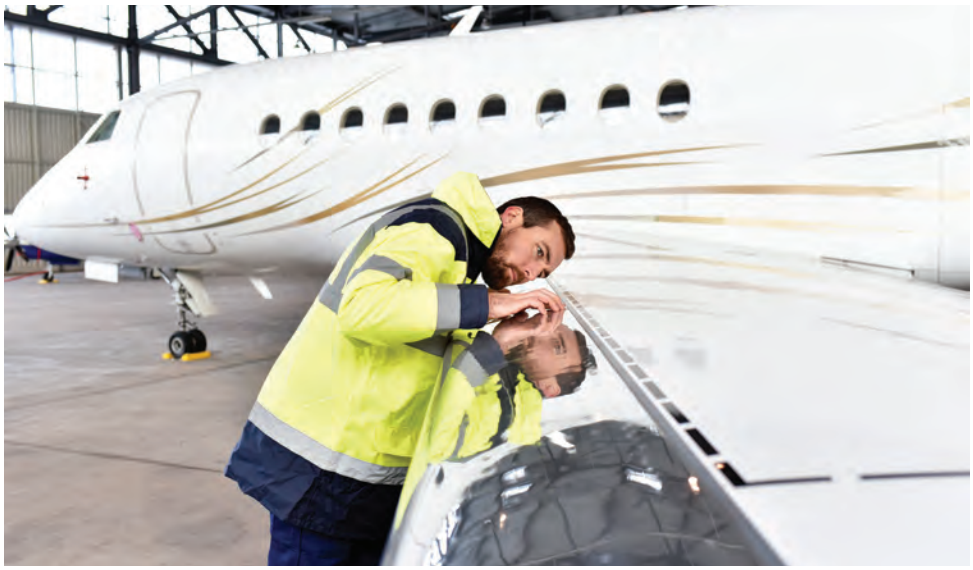
Much of Naor's focus is now on PASA, a nonprofit organization committed to empowering consumers of private aviation with transparent, research-driven safety insights. Notably, PASA is unbiased, since it is the only nonprofit in the aviation safety space that operates without funding from the industry it oversees.

Naor said, "One of the reasons I founded PASA was to provide more transparency on accidents and incidents to consumers for free, so they can do their own research. The issue with auditing firms is that the financial incentives are misaligned; auditors need to pay the bills, and the only consistent source of revenue is from the operators; this creates a conflict of interest. There have been attempts in the past to have an independent audit standard, but they have failed, unfortunately."

ILLUSION OF SAFETY—REVISITED

A decade has passed since former NTSB chair Sumwalt made his "illusion of safety" comment at the Safety Board's public hearing on the Hawker 700 crash in Akron, Ohio. Yet, according to KB Solutions CEO Kodey Bogart, that phrase is still very applicable to aviation safety and audits.

"While third-party audits and certifications are valuable tools, they can contribute to an 'illusion of safety' if not integrated into a broader, proactive safety culture," said Bogart, a U.S. Army veteran, former Black Hawk medevac pilot, author, and doctoral candidate. "Relying solely on certifications without ongoing commitment to safety can lead to complacency, where the presence of a certificate is mistaken for actual safety performance."



Significant investments in maintenance are a key attribute of safe operators.

According to Bogart, "To avoid this pitfall, both operators and customers should view certifications as part of a comprehensive approach to safety, emphasizing continuous improvement, employee engagement, and a genuine commitment to safe operations."

Bogart went on to share some experiences as an auditor. "While third-party audits aim to enhance safety, their ability to guarantee it is limited. Audits provide a snapshot of an operator's compliance at a specific time but may not reflect ongoing practices or cultural attitudes towards safety." She continued, "Moreover, the effectiveness of an audit depends on the rigor of the auditing process and the operator's commitment to implementing recommended improvements. It's important to note that while audits can identify areas for improvement, they do not replace the need for a proactive safety culture within the organization."

Argus International v-p of business aviation audit programs, Patrick Chiles, provided some insight into the audit process. "Audits are a collaborative process between the operator and the audit organization," he said. "To be truly effective, it must be more than just having the audit team show up with a blank checklist and getting to work. Pre-audit preparation is crucial, which means there is going to be some work on the operator's part."

Before Argus, Chiles held several management positions at a large fractional ownership company and Part 121 airlines. He added, "For every audit we perform, whether Argus, IS-BAO, ACSF, et cetera, the operator is provided with the checklists ahead of time. They are expected to go through each question and note where each one is addressed in their manual system. The operator then sends the completed checklist to the audit team along with copies of their manuals."

This pre-audit work by the operator is critical, according to Chiles; "This is when the auditors get to work. They will go through each question and verify that the operator's documented processes meet the intent of the standard. There are over four hundred individual questions in the Argus standard. Without the operator's input, our auditors would have a considerably more difficult time preparing."

He continued, "This prep work allows the audit team to arrive with a good understanding of the operation and what to focus on while onsite. The idea is to complete the documentation part of the audit ahead of time, so once onsite, the auditors can verify that all of the operator's processes are being performed as documented. This is especially important because their time onsite is best spent interviewing the management team

and other employees, reviewing records, inspecting aircraft and hangar spaces, and observing normal operations. This provides the auditors with a complete picture."

Argus audits are a group effort, Chiles said. "Audit teams always consist of an operations auditor and a maintenance auditor. Our auditors have decades of experience as pilots, maintenance technicians, and licensed dispatchers. This experience is crucial for the judgment needed to interpret the standard and apply that to the operator's programs."

In addition to managing safety programs, Chiles is a certified auditor. He said, "Completing an Argus audit represents a commitment to safety and operating standards above and beyond the basic requirements of Part 135. This is important to recognize, because new entrants to the program often think they don't have to conform to those items in the standard that aren't strictly regulatory." He continued, "Our audits aren't a regulatory assessment; they're designed to determine conformance to recognized industry best practices. For example, SMS has been a major focus of our audit programs long before the Part 5 mandate went into effect."

Wyvern's Bates explains that there is a wide variance in scope, depth, objectives, and outcomes of these industry safety audits. Bates said, as an example, "Wyvern is a deep dive versus a competitor's shallow two-day touch and go. The idea of having hundreds of standards to cover in two days is not a good model," Bates continued. "The evaluation should be risk-based. Wyvern focuses on safety culture analysis and feedback, human performance analysis and feedback, Flight Safety Foundation's basic aviation risks, SMS, compliance management, and a discrete list of standards we feel are 'killer items.'"

Bates believes an audit provides great value to the operator with a couple of caveats. "For the air charter operator, the regulators require them to have a basic and somewhat limited professional management structure, an SMS manual, an operations manual, an aircraft maintenance program manual, et cetera." He continued, "So, these are the basic things that IS-BAO and Wyvern require as well. However, as indicated above, Wyvern deep dives into specific areas based on risk as identified by the industry." As an example, Wyvern benchmarks against best practices and safety issues identified by the Flight Safety Foundation.

MIKE RUIC
FOUNDER, JETCHECKED

> "Treat safety as a living, breathing commitment, not a marketing slogan..."

To keep operators honest, Bates feels that today's best audit programs have advanced beyond simple "box ticking" exercises. "They are only as good as the effort they put into these programs. Operators tend to 'slip' back into 'normal' mode after the traditional audit, which is why Wyvern implemented the Flight Leader program that requires quarterly monitoring and coaching to ensure continued alignment with best practices and professional codes of practice."

Of importance, Bates added, "Wyvern also looks at the degree to which key personnel, pilots, and aircraft maintenance teams are dedicated to that operator versus freelance persons serving many operators." This has been identified as a big risk in the air charter industry.

In fact, according to Bates, charter customers should pick only those operators that employ full-time dedicated management personnel in key roles such as director of operations, director of maintenance, and safety manager—this is considered a positive attribute.

Bates said there are many "red flags" to look out for when choosing a charter company. In addition to "freelance" personnel, Bates recommends at a minimum that the operator should hold at least one voluntary certificate, such as Wyvern Wingman, IS-BAO, or an ASCF audit.

In addition, the operator should have an accountable executive who is available to talk about and promote the company's safety culture. He also said customers should avoid flying on aircraft that are more than 20 years old or those operating with a single pilot.

JetChecked's Ruic recommends avoiding operators that have a history of FAA violations. During his research, he found one operator that was fined for operating more than 1,000 flights without a qualified chief pilot and many others with maintenance violations for flying unairworthy aircraft. In addition, Ruic cautions customers to avoid those operators that "hide behind logos, badges, and marketing" or rely on contract pilots who may lack recent experience on the aircraft type.

Ruic has identified a few additional positive attributes of good charter operators. Ruic places emphasis on pilot training (using simulators), proficiency, and currency. Additionally, those operators should invest heavily in maintenance and should be willing to discuss past safety issues and corrective actions. Again, Ruic said, "Treat safety as a living, breathing commitment, not a marketing slogan."

He continued, saying, "That is why JetChecked does not believe in a one-time pass/fail sticker. We believe in constant, in-depth vetting so that every passenger can fly with the confidence that their operator is safe today, tomorrow, and always."

Flight lines through time at the National Aviation Hall of Fame

BY AMY WILDER

At the National Aviation Hall of Fame's (NAHF) annual enshrinement ceremony, history and future often meet on the same stage. For 2025 enshrinee and retired general Lloyd W. "Fig" Newton, that moment arrives not only with applause and acclaim, but in the shining eyes of a six-year-old boy seated beside him in the Joe Clark Innovation Lab at one of this year's summer camps.

Newton, who is an NBAA chairman emeritus, joined those volunteering to foster NAHF's educational programs.

The boy at the summer camp was overcome with nerves while trying to ask Newton a question about airplanes, but found himself gently invited to the general's side, where Newton, with calm and kindness, began chair flying, describing the principles of flight using an imaginary cockpit in the space in front of them. Later, when asked what he'd remember most from camp, the youngster said simply, "Sitting next to General Newton."

That moment, said NAHF president and CEO Aimee Maruyama, is the kind of inspiration the NAHF hopes to spark every day. That's the kind of moment that plants the seeds for the future of aviation to grow. And with the industry facing a deficit in its workforce, which is projected to grow as demand increases over the coming decades, that is critical.

The NAHF Heritage Hall & Education Center promotes aerospace careers by hosting field treips, camps, and design challenges.

THE MISSION BEYOND THE MEDAL

Since its founding by Congress in 1964, the NAHF has inducted more than 260 individuals who have shaped American aviation and aerospace. But its mission has evolved beyond honoring pioneers—it serves as a public trust for sharing their stories as a gateway to inspire the next generation.

"We honor aviation legends to inspire future leaders," Maruyama said. "It's not only about preserving the legacy, but about using these stories to ignite curiosity and confidence in young learners."

Maruyama, who stepped into her current role in June 2023, has worked to transform the organization's footprint in Dayton, Ohio—where it's co-located with the National Museum of the U.S. Air Force—into a hub for interactive learning and STEM engagement.

The Heritage Hall & Education Center is home to NAHF's exhibits, immersive content, and the recently completed Joe Clark Innovation Lab. Named for the late enshrinee whose winglet innovations revolutionized fuel efficiency and emissions, the Lab is a 1,600-sq-ft space that hosts field trips, camps, and design challenges.

The Lab is part of a broader educational pivot launched in 2019, which includes a PBS Kids-partnered curriculum that has reached more than 6,000 classrooms and 250,000 students in Ohio and beyond, and a suite of in-person programs built to reach students before confidence gaps

form. “Research shows that fifth and sixth grade are a critical window,” Maruyama explained. “If you don’t capture their interest by then, many students—especially girls and underrepresented groups—start to doubt they can pursue STEM.”

In response, the organization’s Discovering Flight initiative offers project-based learning modules, lessons drawn from the biographies of enshrinees, and hands-on STEM activities. Maruyama said the goal is to provide students with both role models and tools for exploration. “We want kids to connect with the human stories behind aviation,” she shared. “That it’s not just about machines—it’s about imagination, perseverance, and the belief that they belong here.”

Lloyd “Fig” Newton: “When you lift someone up…you’re giving them the chance to fly.”

GENERAL NEWTON: FROM FARMER’S SON TO FOUR-STAR GENERAL

Among the 2025 inductees, Lloyd “Fig” Newton embodies the arc from dream to legacy. Newton has long advocated for access and equity in aviation, emphasizing early exposure and hands-on learning. “If we don’t reach young people early,” he said, echoing Maruyama, “they might never realize they belong in this field. Aviation isn’t just about being a pilot. It’s design, mechanics, control systems—an entire world that too many kids never get to see up close.”

He speaks from personal experience. Newton’s first flight came in college at Tennessee State University aboard a Piper J-3

Cub. The experience changed his life. "I was near the end of my freshman year when I took that ride," he recalled. "After that, I knew I wanted to fly for the Air Force."

Born in Ridgeland, South Carolina, in 1942 to parents who had not completed high school, Newton grew up on a farm and watched airplanes from nearby Air Force bases cross the sky. The idea that he could pilot one of those aircraft seemed remote to him at the time. He enrolled in aviation coursework and joined Air Force ROTC. He earned his pilot wings and went on to fly 269 combat missions in Vietnam—79 of them over North Vietnam in the F-4 Phantom.

In 1974, Newton became the first African-American pilot to fly with the U.S. Air Force Thunderbirds. He commanded three air wings and one air division, became the Air Force's first Black four-star general to lead a major command—the Air Education and Training Command (AETC), and served as a congressional liaison officer.

He has continued to advocate for aviation and training, serving in public roles. Newton's leadership in business aviation is anchored by his long service with NBAA, where he was first elected to the board of directors in 2010 to fill a vacancy. At the time, he was also serving on the board of Goodrich. He was elected NBAA chair in 2017 and named its first chair emeritus in 2023. After his military retirement, Newton held the role of executive v-p of international military business development at Pratt & Whitney, where he supported both military and civil aviation programs.

His deep belief in training—emphasizing the importance of repetition, empowerment, and trust in education—has carried through his military service and into education advocacy. At his home in South Carolina, he helped co-found a project-based charter school built around critical thinking and real-world problem solving. "Every child brings something different," he said. "We need to individualize education so they can see themselves in the work."

TRAINING, TRAINING, TRAINING

For Newton, the soul of aviation lies not only in flight but in preparation. Whether speaking of his early days as a flight instructor or his tenure at the U.S. Air Force Air Education and Training Command, Newton returns again and again to the same refrain:

"Training, training, training, and more training," he said. "That's how you take someone just out of high school and have them maintain a multimillion-dollar aircraft within a year. You build it step by step. It's how we fly in close formation, how we fly safely, how we lead."

The NAHF's Joe Clark Innovation Lab, named after the winglet innovator and enshrinee.

Newton's belief in the power of simulation and realistic mission rehearsal grew stronger during his time in Special Operations. Long before artificial intelligence and augmented reality became buzzwords in education and defense circles, Newton was practicing full-mission scenarios in simulators that could replicate real-world terrain, weather, timing, and even adversarial threats.

"We could go to the simulator and run the entire mission—see the actual photos of where we were going, the layout of the target area, practice what might go wrong and how to respond," he said. "That changed everything. You're not just flying a profile. You're preparing your mind to make real decisions in real time."

That mindset—anticipating the unexpected, practicing under pressure, and relying on muscle memory and mental acuity—has become a pillar of modern aviation safety. Newton sees today's digital simulation tools as a continuation of that effort, but cautions that fidelity must be matched with psychological realism.

"There's something your mind knows in a simulator: that you can't get hurt," he said. "So when you're in the actual aircraft, it's different. There's risk. There's consequence. And you have to train your mind to account for that, not just go through the motions."

He calls it the missing element in over-reliance on technology: "Instinct doesn't come from a screen. It comes from repetition, observation, and reflection. And trust—trust in the aircraft, trust in your wingman, trust in the training."

That trust is what Newton saw in Chesley "Sully" Sullenberger's 2009 emergency landing on the Hudson River. When US Airways Flight 1549 lost power in both engines and controllers offered options to return to the airport, the captain decided to ditch in the river instead, which saved all 155 people on board.

"People think that was luck," Newton said. "It wasn't luck. That was experience.

THE CLASS OF 2025

The NAHF 2025 Class of Enshrinees is being honored in the 61st annual induction ceremony in September in Wichita, Kansas, with the 2026 slate set to be announced during NBAA-BACE in October.

This year's honorees are:

Julie Clark—a retired commercial airline pilot and aerobatic performer. She flew for Golden West and Hughes Airwest, retiring in 2003 as captain on Northwest Airlines' Airbus A320 fleet.

John Goglia—a longtime aviation safety expert and former NTSB board member who served from 1995 to 2004. A certified A&P mechanic, he was the first to bring that technical background to the agency's highest level. A former **AIN** contributor, Goglia was known for his strong advocacy that helped in the passage of the General Aviation Revitalization Act of 1994.

Mae Jemison—first African-American woman to fly into space aboard the Space Shuttle *Endeavour*. Before NASA, she served as a Peace Corps medical officer in West Africa and earned degrees in chemical engineering and medicine from Stanford and Cornell universities.

Lloyd "Fig" Newton—first African-American Thunderbird pilot and four-star general who has served as an advocate for business aviation and education, including as chair of NBAA.

Phoebe Omlie (posthumous)—barnstormer, pilot, aircraft mechanic, and the first woman pilot to work at the Bureau of Air Commerce (a predecessor of the FAA) and for NASA.

Frank Robinson (posthumous)—founder of Robinson Helicopter and the designer of the popular R22, R44, and R66 light helicopters. He was a pioneering aerospace engineer known for making rotorcraft more accessible and affordable.

The NAHF receives between 20 and 50 new nominations annually, though more than 400 candidates remain in consideration across years. Nominees go through multiple rounds of review and selection each year, with four to six enshrinees selected annually.

"Once nominated, you're eligible every year going forward," NAHF president and CEO Aimee Maruyama said. "It's both a tremendous honor and a complex process."

That process begins with a 50-member Board of Nominations, comprising professionals from across the aviation industry. In the first round of review, board members are divided into groups and tasked with evaluating whether nominees meet the NAHF's charter criteria: having made significant contributions to American aviation or aerospace. Top candidates from each group advance to a second round, where members rank finalists on a scale of 1 to 10.

The highest-scoring nominees are then reviewed by two key bodies: the NAHF Board of Trustees and the body of living enshrinees. Final approval rests with the trustees, checking across all nominations, many of which span decades and continue to evolve.

"Some of these nominations date back to the 1960s," Maruyama noted. "We wanted to make sure we were preserving accuracy—and recognizing that lives and accomplishments can continue to grow long after someone's name is first submitted." **A.W.**

That was hundreds of hours of training and thousands of hours of flight time. Sully didn't pause and ask what the simulator said. He knew. He had it in his bones."

Newton's philosophy is as much about leadership as it is about flying. When he was with the Air Force, he made it a point to mentor student pilots who were struggling with formation flying. "Before we even thought about washing someone out, I'd say: Let me fly with them first," he said. "I believed anyone could learn it if they were willing."

Whether on the battlefield, in training airspace, or at a charter school project lab in South Carolina, Newton's core message is the same: preparation empowers confidence. Repetition builds instinct. And with the right kind of training, young people can exceed even their own expectations.

"There are no shortcuts," he said. "But if you build it right, the outcome is extraordinary."

This year's enshrinement ceremony will take place in September, continuing a tradition that dates back more than half a century. Though the event now rotates cities, the NAHF's anchor remains in Dayton, birthplace of powered flight.

For Maruyama and Newton, that historical link is more than a symbolic one. "We've always had legends," Maruyama said. "But we're also building a legacy that lives in the present—through a kid's question, a spark of curiosity, or a new door that opens."

Newton put it another way: "There's no flight without lift. And when you lift someone up—through training, encouragement, or a seat at the table—you're giving them the chance to fly."

Skyfirst plots aircraft management growth path

BY CHARLES ALCOCK

Skyfirst chief pilot Jerome Cupa on left with copilot Clément Jolliot.

European aircraft management and charter group Skyfirst is preparing to add to the five jets it already operates as it seeks a higher profile in the market. According to founder and CEO Olivier Perdriel, the privately owned company seeks relationships with aircraft owners who appreciate the value of highly personalized service through a sense of partnership with the operator.

Since the Covid pandemic, Perdriel has seen shifting private aviation priorities among high-net-worth individuals. "Clients are increasingly focused on the efficiency of operations," he told **AIN**. "More of them are approaching us because they know we are reliable and reliability has been an issue [in the aircraft management sector]."

For those aircraft owners seeking to spread the cost burden, charter to third-party clients is an option, but it doesn't always work to their advantage. "We recommend that they don't allow too many cycles and hours [on their aircraft] and instead find people who want long-range flights with not too many people on board," Perdriel explained.

The fleet consists of a mix of long-range Dassault Falcon 7Xs and 8Xs, plus a Bombardier Global Express. Skyfirst says it is well prepared to diversify operations with other types that could include Embraer's Praetor 600 and Phenom 300, Gulfstream G650 and G550 models, Cessna's Citation Latitude and XLS, and the Bombardier Global 6500.

In 2024, Paris-based Skyfirst's aircraft logged 2,774 hours across 921 flights with stops in 79 countries and 119 airports. The longest flight was 13 hours 14 minutes in a Dassault Falcon 8X, and the longest mission spanned 37 hours and 25 minutes—a round trip from the French capital to the Pacific island of Tahiti.

OVERCOMING TRIP OBSTACLES

Skyfirst's team prides itself on its ability to bypass seemingly insurmountable obstacles to important trips. For example, a customer wanting to fly direct to Sienna in Italy was dismayed to find the local airport

had been closed for five years and then delighted when the operator managed to get it opened for their arrival.

When a country's president flew to China on a Falcon, a landing gear component failure was discovered in Beijing. Skyfirst pulled strings with Dassault to get parts and technicians scrambled from Paris, and in less than 30 hours from the initial part failure, the jet was back in service.

Skyfirst's team particularly likes working with owners who appreciate the difference their individuality and experience can make. "We need our people to feel part of situations like an AOG on a Saturday night at 11 p.m., and be ready to fight for the owner in these situations," said Perdriel.

As a matter of policy, all of Skyfirst's charter flights are booked through brokers. "They are a good filter because clients change their plans all the time, and this is a good role for brokers, who are more like concierges," Perdriel said. "We work with selected brokers who work for very selective clients. They usually offer two or three different options for operators. We are normally the most expensive, but they know we are the problem-free option."

While Skyfirst has a corporate office in Paris and trades on France's refinement in areas such as cuisine, its EU air operator certificate was secured in Malta when the company launched in 2012. There, Perdriel found pragmatic professionalism in a regulator with a strong desire to serve the rarified needs of business aviation.

"We're not there for tax reasons," said Perdriel. He first talked with Maltese officials after discovering that French officials would take a long time to process a request to register the company's first aircraft, which was a Bombardier Learjet 45.

By contrast, the process in Malta went very smoothly with minimal bureaucracy. Skyfirst has recruited pilots from Air Malta for its management team.

"It took just one meeting in Malta, and I could see their approach is to help operators to be successful in order to help them to be safe," he concluded. There are now more than 900 business aircraft registered on the Mediterranean island.

HOSTILE TAX ENVIRONMENT IN FRANCE

A more current challenge in Skyfirst's native France is the government's controversial and punitive tax on private charter flights, as part of a wider "airline ticket solidarity tax." Tax rates for business aircraft charter flights range from €210 to €2,100 per passenger, depending on the length of the sector operated.

Perdriel and other industry leaders in the French branch of the European Business Aviation Association believe the government failed to conduct an impact study for measures that may pose an exponential threat to many operators, as well as to around one quarter of French airports. A study conducted in late 2024 by Deloitte concluded that the new levy would result in far lower tax revenues due to its negative impact on economic activity and employment.

In Perdriel's view, the regulation of the private aviation industry generally has become excessively complex, with contradictory and duplicating requirements between countries over issues such as emissions trading. "I wish the leaders would be more pragmatic, because it is creating a very difficult environment for operators," he said. "They need to be careful that they are not going against safety. If operators are losing money, the first thing they will lose is safety. If we don't simplify rules, we might end up with things that are unsafe."

Nonetheless, Perdriel's strong attachment to the industry is clear. Back in 2010, at the age of just 26, he was recruited to turn around what was then a struggling air ambulance operation called Air Albatros. It was this experience that sparked his entrepreneurial zeal for private aviation, which is undiminished by the challenges the sector faces.

Jet Aviation Acquires FBO at Paris Le Bourget

Jet Aviation has acquired the AstonSky FBO at Paris Le Bourget Airport (LFPB). The Switzerland-based bizav services group added the French facility to its network of 11 FBOs in the Europe, Middle East, and Africa region and 30 bases worldwide.

AstonSky was opened at Le Bourget in October 2019 by France's Clair Group, which also includes charter operator AstonJet and a private terminal at Toussus le Noble Airport (LFPN) on the southwest side of Paris. General Dynamics subsidiary Jet Aviation did not disclose how much it paid for the business.

The Le Bourget FBO provides aircraft handling services, fueling, hangarage, car parking, and support for passengers and crew. Three hangars with a total area of almost 37,700 sq ft are included at the site, as well as a terminal building with multiple lounges, crew rest areas, and offices.

Million Air Brings First Continual SAF Supplies to N.Y.

Million Air's location at Albany International Airport (KALB) is now the first FBO in New York to provide continuous supplies of sustainable aviation fuel (SAF). While other facilities in the state have taken SAF in the past, it was only for demonstration purposes.

The lone service provider on the field, the facility received its first delivery of SAF from Avfuel's Northeast distribution facility. A drop-in replacement for jet-A in its blended form, SAF is made from renewable and sustainably sourced waste materials. The delivered 30% SAF blend will provide a 24% reduction in life cycle carbon emissions.

"Albany International Airport is proud to be the first airport in New York state to offer SAF through Avfuel to our general aviation customers," explained Sam Fresina, chair of the Albany County Airport Authority. "This milestone reflects our deep commitment to supporting cleaner, greener technologies that protect our environment and advance the future of air travel."

FBO Changes Hands at Charlotte Douglas International

Modern Aviation has taken over as the sole business aviation services provider at North Carolina's Charlotte Douglas International Airport (KCLT). In March, the growing chain was declared winner of the airport's RFP process to manage the facility, nudging out long-time incumbent Wilson Jet Center.

"As we look to the future with Modern Aviation, we are excited to introduce a new era of private aviation in Charlotte," said Ted Kaplan, KCLT's chief business and innovation officer.

This represents the 19th location for Modern, which was established in 2018. To ensure continuity of service, it offered to retain all the staff at the FBO, which the vast majority accepted. As per its lease agreement with the airport administration, it will upgrade the FBO terminal, with construction expected to begin by year-end.

Aero Centers Adds Sheltair Lakeland FBO to Fold

Aero Centers has added a second facility at Florida's Lakeland Linder International Airport (KLAL) with the acquisition of the Sheltair FBO there. The acquisition makes Aero Centers the sole FBO provider at KLAL and brings its footprint there to more than 30 acres, including more than 125,000 sq ft of hangar and office space.

The company hopes to grow alongside the airport, support its evolving role in cargo and commercial service, and further its partnership with the Sun 'n Fun Aerospace Expo held annually in early April. Plans call for investments in facility improvements, customer amenities, and hospitality, Aero Centers said.

Taos Aviation Services: A Gateway to the Land of Enchantment

Taos Aviation Services (TAS), in operation for nearly three decades, is the lone FBO at New Mexico Taos Regional Airport (KSKX). The state's nickname is the Land of Enchantment; appropriately, KSKX's 8,600-foot and 5,500-foot runways are gateways to year-round outdoor activities ranging from world-class skiing in the winter to summer boating and fishing on the Rio Grande, and hiking in between.

According to TAS general manager Ray Rodriguez, winter is the peak season for the FBO. "We have four ski areas within 45 minutes of here," he noted. "We're doing 20 to 25 flights a day pretty consistently all winter long. We'll get G650s, Globals." That peak lasts from the beginning of December through the end of March, and Type I and IV deicing is available.

Spring tends to be the quietest season at the FBO due to high winds, which curtail the general aviation traffic, while summer sees steady activity for the resort destination. "We get a lot of people from Texas in general to beat the heat because we are a high mountain desert town," said Rodriguez. "Fall has been up to a few years ago a slow season for us, but we've had a little more consistent business the last few years."

Aside from those annual seasonal patterns, events in the area can spur aircraft traffic, such as the city's annual Big Barn Dance Music Festival held this month. On average, the FBO averages a dozen flights a day for the year.

A fixture at KSKX since 1998, the terminal packs a lot into its 1,200 sq ft of space, including a pilot lounge, 20-seat conference room, shower facilities, refreshment bar, and business center. With a staff of eight, TAS is open from 7:30 a.m. until 6 p.m. every day, with after-hours callout available. Car rental is available through Go Rentals or the FBO's in-house option.

A gateway to the southern Rocky Mountains, Taos Aviation Services, the lone FBO at New Mexico's Taos Regional Airport, has served the local community since 1998.

For aircraft shelter, there is a heated 14,400-sq-ft hangar that can accommodate business jets up to a Gulfstream G450. The company has had internal discussions about building a large hangar capable of housing the latest ultra-long-range private jets, but Rodriguez stated that those plans likely won't solidify until the airport access road is extended, to make more space available towards the southeastern corner of the field near the end of Runways 04 and 13.

The Phillips 66-branded FBO has a fuel farm with 12,000 gallons of both jet-A and avgas. It is served by two jet refuelers (5,000-gallon and 3,000-gallon) as well as a 1,000-gallon 100LL truck. They pump approximately 200,000 gallons a year, between the general aviation traffic and commercial service from JSX and Contour.

While the airport—which is located just 7 miles from the city—recently broke ground on a new 7,500-sq-ft terminal building, it is uncertain whether the FBO will be relocated there, or if it will be reserved solely for commercial operations. "That's still up in the air," Rodriguez told **AIN**, adding that plans have changed several times. "We're going to wait until it gets closer to being completed to figure that out."

Despite the location's small staff, TAS upholds high standards. "We pride ourselves on our customer service," said Rodriguez. "We always meet the planes and greet them as soon as they are shut down." If customers left their car keys with the CSRs, it will be driven out on the ramp to meet them planeside if desired. Indeed, some repeat customers will leave a car at the FBO for long periods, and the staff will look after it. That includes dropping it off and picking it up for maintenance in the owner's absence. "We do not charge for that service; we do it just to help them out," Rodriguez explained.

"We're pretty open to anything and everything as long as they ask us, and if it's something that we're able to do, we'll generally just do it for them." That positive attitude extends to helping with repairs to private hangars on the field or even customer vehicles. "If we can fix it for them, we will." C.E.

COMPILED BY CURT EPSTEIN

Dassault Opens Central Florida Falcon MRO Center

Dassault Aviation's new Falcon service center in Melbourne, Florida, is fully operational. The purpose-built, 175,000-sq-ft facility, which officially opened on July 7, can accommodate up to 15 of the French aircraft manufacturer's business jets at a time.

More than 100 technical staff have been recruited to support Falcon operators throughout the Americas from the maintenance, repair, and overhaul base at Melbourne Orlando International Airport (KMLB). The facility represents Dassault's biggest investment in the U.S. since it opened its completions and service center in Little Rock, Arkansas.

The MRO infrastructure, which includes a paint shop and modifications capability, supports a growing fleet of Falcon 6X twinjets. Dassault is also preparing to provide support for its latest 10X model, which is expected to enter service in 2027.

Precision Aviation Group Marks First Expansion to EMEA

Atlanta-based MRO services provider Precision Aviation Group (PAG) has expanded its footprint into the EMEA region with the purchase of Turner Aviation. Founded in 1954 and headquartered in Glasgow, Scotland, Turner—which holds UK Civil Aviation Authority approval and is an EASA Part 145 repair station—serves a diverse customer base. It specializes in the repair and overhaul of avionics, components, and fuel systems.

PAG operates 25 FAA-approved repair stations, mainly in the U.S. and Asia-Pacific, and has more than 1,100 employees worldwide. It offers comprehensive MRO services on more than 200,000 product lines.

This latest addition is part of its broader growth strategy and will enhance PAG's ability to better serve its customers, offering faster turnaround times, expanded local support, and enhanced capabilities.

Dubai Bizav Group Extends Mx Approval to Falcon 900EX

The UAE's General Civil Aviation Authority (GCAA) has expanded Falcon Technic's authorized maintenance organization (AMO) approval to cover line support for the Dassault Falcon 900EX EASy. The Dubai-based group announced the approval as part of a longer-term plan to expand its maintenance, repair, and overhaul capabilities.

By year-end, Falcon Technic aims to secure authority to perform base maintenance, including 24-month inspections, for the large-cabin Bombardier Challenger 604/605, as well as for the Embraer ERJ-145/Legacy 600/650. It is also seeking approval for base maintenance, including 120-month checks, on Bombardier Global Express twinjets.

The company's CAR 145 license already covers line maintenance for Global Expresses, Challengers, and Legacys operated in the charter market under its Falcon Luxe brand. It is now seeking line maintenance approval for the Challenger 850 and Gulfstream G550.

Davinci Jets Joins Tamarack Winglet Dealer Network

Aircraft management, charter, and maintenance provider Davinci Jets is now an authorized service center for Tamarack Aerospace's active winglet systems. The Tamarack autonomous load alleviation system (Atlas) modifies Cessna CitationJets with winglets and Tamarack active camber surfaces, which actuate during flight to reduce the increased load on the wings caused by the winglets. The result is lower fuel burn, improved climb performance, and extended range.

Davinci Jets will offer installations of the Tamarack active winglet systems on the Textron Aviation Cessna Citation CJ/CJ1/CJ1+/M2/M2 Gen2, CJ2/CJ2+, and CJ3/CJ3+/CJ3 Gen2 at its Charlotte, North Carolina MRO facility.

Serbia's Prince Aviation poised for growth

This year marks multiple milestones for Prince Aviation, a full-service company in Serbia that traces its roots back to the former Yugoslavia. The business aviation services firm started 35 years ago as a small aircraft operator based in a hangar it rented from Yugoslav Airlines at Belgrade Nikola Tesla Airport.

In addition, 2025 is the 20th anniversary of the start of Prince Aviation's maintenance division, which the company first developed to handle its own aircraft fleet. Over time, the company gained valuable experience and a unique perspective as it extended its support outside its own organization.

"It put us in a really good mentality and approach that we are respecting the customer and their operations," said Djordje Petrović, the company's COO. "The maintenance facility from that moment was developing a wider scope." The facility—now a full-service MRO—received its EASA Part 145 maintenance certificate in 2012.

Last September, the company opened a new 32,290-sq-ft maintenance hangar next to its original 8,600-sq-ft facility. It is equipped with a heated floor, climate control, and—like many aircraft hangars—a "Big Ass Fan."

"We had a couple of occasions of our technicians going to the United States to support some projects, and they saw [the fan] and were slightly jealous, so when we were building the facility, we wanted to please them," joked Petrović.

Now with the ability to accommodate 15 aircraft at a time, this has allowed Prince to quadruple its capacity to more than 100 aircraft projects a year. "This is one of the biggest improvements that we made," Petrović told **AIN**. "With the previous facility, the slot availability was around two and a half to three months. [Now] we have shortened that period to a one-month backlog." He added that 80% of his company's clientele are repeat customers.

Prince Aviation quadrupled its private aircraft facilities and capabilities.

While the new hangar can handle ultra-long-range business jets, the MRO's focus is on Cessna Citations, and it recently expanded into legacy Dassault Falcons such as the 50, 900, and 2000 models.

Among its capabilities are avionics upgrades; the company is an authorized dealer and installation center for Collins Aerospace, Garmin, and Mid-Continent Instruments and Avionics.

Prince also performs satcom installations, with its venerable CJ serving last May as the global premiere platform for the Collins IRT NX system. It followed that in January with the first-ever installation on a Citation XLS.

The company recently performed one of the most involved projects on a Citation outside of the Textron subsidiary's Wichita factory. It involved the replacement of the entire belly skin on an XLS due to corrosion caused by a lavatory fluid leak. Requiring 7,000 hours of work, the job involved removal of the jet's interior, engines, and wings.

The facility can also handle cabin refurbishments, and a rented third hangar on the field (6,500 sq ft) is configured as a paint shop for interior and exterior painting of aircraft up to midsize jets. Among its authorizations, Prince is a Pratt & Whitney designated maintenance facility, one of seven in Europe, as well as a Textron Aviation authorized NDT facility.

In terms of AOG, Prince has a dedicated team with 24/7 dispatch and has sent its technicians as far as Asia-Pacific and South Africa. Depending on the urgency of the situation, the company can use its own aircraft fleet for transport, and it maintains a spare parts inventory worth €2.5 million.

To maintain its safety standards as it expands, Prince recently announced that it has become the first business jet company in Europe to implement Snap-on's automated Level 5 tool control system.

The MRO has a staff of 110, including 70 full-time technicians, half of whom have been with the company for a decade or more. While the labor pool of mechanics is tight, Prince has a strong pipeline with its own EASA Part 147 training school, and it also accepts 10 to 15 apprentices a month from the nearby aerospace vocational high school. The company has established a unique mentorship program for its technicians nearing retirement age and beyond. They are assigned the less complicated maintenance jobs so they can focus on overseeing and instructing their younger, newly hired colleagues. C.E.

Accidents

BY DAVID JACK KENNY

The material on this page is based on reports by the official agencies of the countries having the reponsibility for aircraft accident and incident investigations. It is not intended to judge or evaluate the ability of any person, living or dead, and is presented here for informational purposes.

Preliminary Reports

Six Hurt in Skydiving Accident

De Havilland Canada DHC-6 Twin Otter, June 8, 2025, Tullahoma, Tennessee

The pilot and five of 20 skydivers were seriously injured when their jump plane struck two trees during an emergency landing following a loss of power in the left engine. The remaining 15 passengers were unhurt.

The flight, the pilot's fourth of the day, took off normally from Runway 24 at Tullahoma Regional Airport (KTHA). After climbing to 500 feet, the pilot noticed asymmetric thrust while syncing the propellers. Airspeed decreased after he lowered the nose, so he turned back in attempt to land on Runway 36.

Despite initiating "engine-out procedures" including flap extension and maintaining airspeed above the single-engine controllable minimum, the airplane continued to descend. Unable to reach the runway, the pilot set it down in a field but was unable to avoid the trees. The left wing, left engine, and empennage separated from the airframe, but the fuselage came to rest upright and there was no post-crash fire.

No Survivors in Ohio Departure Crash

Cessna 441, June 29, 2025, Warren, Ohio

The airline transport pilot and all five passengers were killed when the airplane struck trees just after taking off from Runway 32 of Youngstown/Warren Regional Airport (KYNG). ADS-B data indicated that it never climbed above about 100 feet after lifting off.

Security camera footage showed that the Conquest rotated 4,400 to 4,500 feet down the 9,003-foot runway, climbed 100 feet above the ground, and leveled off, continuing on runway heading. A camera at a farm 0.4 nm to the east captured seven seconds of the airplane flying straight and level before passing out of sight behind trees.

Witnesses reported hearing "a noticeable pitch change in the engine sound" followed by trees breaking and an explosion. The wreckage was found in a heavily wooded area. The aircraft came to rest inverted with most of the left wing separated. The cockpit, cabin, and both wings were heavily damaged by the post-impact fire.

Medical Crew Lost Outside London

Beechcraft B200, July 13, 2025, Southend Airport, London, UK

All four crew members perished when the medical evacuation King Air crashed just outside the field during an attempted departure from Southend Airport (EGMC). The crew was returning to the company's base at Lelystad Airport in the Netherlands after transporting a patient from Athens to London with a stop in Pula, Croatia. Witnesses reported that the aircraft veered left and descended just after breaking ground. Press reports identified the victims as the captain and first officer, a doctor, and a flight nurse on her first day on the job.

Final Reports

Autopilot Disconnect Led to Upset, Cabin Injury on Challenger 300

Bombardier Challenger 300, July 27, 2022, San Francisco, California

An abrupt autopilot disconnect during climb led to an in-flight upset and serious injury to a cabin attendant aboard a Bombardier Challenger 300 near San Francisco, according to the NTSB's final report. The aircraft was operating on a Part 91 positioning flight from San Francisco International Airport (KSFO) to Page, Arizona (KPGA), with two pilots and one cabin attendant on board. The aircraft departed KSFO at 12:30 with the autopilot engaged during initial climb. As it passed through 20,000 feet, two caution messages appeared on the crew alerting system: "AP STAB TRIM FAIL" and "AP HOLDING NOSE DOWN." The pilot-in-command reported taking control from the second-in-command, and shortly thereafter, the autopilot disconnected—either on its own or coinciding with the PIC's attempt to disengage it manually. The aircraft pitched up rapidly.

Flight data recorder information showed vertical acceleration spiked from 0.985 g to 2.221 g in under a second, then dropped to -0.426 g before oscillating between 2.096 g and 0.176 g. During this sequence, the cabin attendant—who had been unbelted—was thrown and sustained serious injuries. The crew recovered control and returned to KSFO, landing without further incident at 13:02.

The Challenger's cockpit voice recorder did not capture the event due to its continuous loop recording. As a result, the NTSB could not confirm whether the crew had followed the checklist procedures associated with the caution messages. These procedures advise firm control input and turning on the seatbelt sign, as well as warning of potential abrupt changes in control forces upon autopilot disconnect. Company policy allowed cabin attendants to be up and moving above 10,000 feet.

Post-accident examination of the autopilot and flight control systems revealed no mechanical faults. All components passed functional testing, and no system faults were logged that would have triggered an automatic disconnect. The NTSB concluded that the autopilot was most

likely disengaged due to inadvertent pilot input, but the precise cause could not be determined.

Incorrect Checklist, Improper Configuration Led to Falcon 10 Overrun

Dassault Falcon 10, June 6, 2023, Panama City, Florida

The crew of a Dassault Falcon 10 failed to configure the aircraft's thrust reversers correctly for landing, in part due to use of an inappropriate checklist, resulting in a runway overrun at Northwest Florida Beaches International Airport (KECP), according to the NTSB's final report.

None of the five occupants were injured, but the aircraft was substantially damaged after striking runway light poles and collapsing its landing gear in sand.

The jet had departed Atlanta Cobb County International Airport-McCollum Field (KRYY) under Part 91 and was conducting an ILS approach to Runway 16 at KECP in night VMC. All systems were reported normal during taxi, takeoff, and cruise. Landing gear and flaps extended as expected, and hydraulic indications were nominal.

The aircraft touched down approximately 2,500 feet from the threshold on the 10,000-foot runway. After deploying the airbrakes, the pilot flying attempted to engage the thrust reversers using reverse idle, but they failed to deploy. A warning horn sounded, and the captain called "no brakes" after applying normal braking with no response. The copilot's braking attempts were also ineffective, and neither normal nor emergency braking slowed the aircraft.

Because the reverser levers remained in the deployed position, the throttles could not be moved to shut down the engines. The airplane overran the runway and struck several approach light poles. A small fire on the left wing was extinguished using the cockpit fire extinguisher.

The pilot stated he did not direct the copilot to pull the fire handles to shut down the engines, as he was focused on avoiding obstacles. He used the rudder to steer the airplane between two approach light structures, but the wings struck both, causing damage back to the engine inlets.

After the accident, the captain discovered the thrust reverser emergency stow switches were still in the stow position—a nonstandard configuration that should have been reset after preflight. The aircraft's supplemental procedures specify that reversers will not deploy and a warning horn will sound if those switches remain stowed.

The Falcon 10 had been modified with thrust reversers via supplemental type certificate, but the checklist found in the cockpit was marked "For Training Purposes Only" and designed for a model without thrust reversers. The NTSB cited the inappropriate checklist as a contributing factor.

A cockpit voice recorder was recovered but provided no usable data. The recording tape, which had to be physically repaired, contained audio dating to 2017 or earlier from a prior registration.

Citation Destroyed in Below-minimums Approach

Cessna 550, July 8, 2023, Murrieta, California

Both pilots and all four passengers were killed when the twin-engine jet crashed short of the threshold during a second RNAV approach to Runway 18 of French Valley Airport (F70). During the Part 91 night flight from Las Vegas, weather at F70 changed from clear skies with 10 miles visibility to ¾ mile visibility under a 300-foot overcast.

After canceling IFR during their descent from cruising altitude, the crew requested and received a pop-up IFR clearance for the approach.

The jet was fast on the first attempt, and after briefly leveling at decision height, the pilots performed a missed approach and requested a second attempt. Reported visibility had decreased to ½ mile in fog; the minimum visibility required for the approach was 7/8 mile. ADS-B data showed that the Citation's rate of descent on the final approach segment was 762 fpm. It again leveled off and began a slight climb before descending at 2,320 fpm during the last three seconds of data, hitting sagebrush-covered terrain about 810 feet short of the threshold on the extended centerline. A post-crash fire consumed most of the fuselage.

Cardiac Arrest Necessitated Nonpilot's Emergency Landing

Piper PA-46-500TP, July 15, 2023, Vineyard Haven, Massachusetts

The 79-year-old private pilot lost consciousness during a go-around from an approach to Runway 06 at Martha's Vineyard Airport (KMVY). The nonpilot passenger took the controls and successfully landed the airplane gear-up on airport grounds, where it "bounced several times after touchdown, then came to rest with the left wing fractured." The passenger suffered minor injuries. First responders found the pilot in cardiac arrest. Their efforts succeeded in restoring his pulse, but he died in the hospital five days later from what an autopsy determined to be "hypertensive and atherosclerotic cardiovascular disease."

The pilot had been treated for high blood pressure since 1970, had previously suffered at least one heart attack, and had undergone coronary artery bypass grafts in 1981 and 1996. Since 2019 he had used blood thinners to treat atrial fibrillation. Between 2006 and 2022 he had received a series of third-class medical certificates under authorizations of special issuance.

His June 1, 2023 medical application did not list his history of coronary artery disease, heart attack, or bypass grafts, but one week later the FAA did receive the documentation required to review his special issuance. These included letters from his cardiologist and primary care physician describing him "as being in stable, outstanding health, with above-average exercise capacity, great compliance with medications and monitoring, and an excellent prognosis."

Compliance Countdown

BY GORDON GILBERT

JUST AROUND THE CORNER

Oct. 10, 2025

Europe/U.S.: Maintenance Safety Management Systems

U.S.-based repair stations must comply with the current version of the FAA/EASA Maintenance Annex Guide to obtain EASA Part 145 approval. The latest revision of the guide requires that, effective Oct. 10, 2025, U.S.-based repair facilities implement an FAA-approved safety management system (SMS). The SMS must be integrated into the repair station's procedures and processes, support the Guide's special conditions and, as a minimum, include the requirements outlined in the FAA SMS voluntary program. To receive initial or continuous approval, the SMS application to EASA must show that it is appropriate for "the size, scope, and complexity of the repair station's operations." Operators unable to meet the compliance deadline of Oct. 10, 2025, have an additional two months to comply if there is a declaration included in their supplemental documents stating that they will be in compliance with all SMS requirements no later than Dec. 31, 2025.

Sept. 16, 2025

U.S.: Filing Complaints with the FAA

In accordance with the Paperwork Reduction Act of 1995, the FAA invites public comments about its intention to request Office of Management and Budget approval for restarting an information collection process. The collection involves the filing of a complaint with the FAA alleging a violation of any requirement, rule, regulation, or order issued under certain statutes within the jurisdiction of the FAA. The agency will use the information collected to determine if the alleged violation warrants investigation and/or certificate action. Comments on the request are due Sept.16, 2025. This collection had been approved in February 2022, but was discontinued in February 2025 for an "internal agency review."

Sept. 16, 2025

Europe: Future ATC Network Research

The European Commission has launched a call for high-priority applied research to help shape the future regulatory framework of its planned Digital European Sky ATC management network. The request identifies research topics defined by EASA and an EU member state advisory board. Research themes sought include human operator role versus automation, including artificial intelligence and machine learning; single European sky airspace classifications; certification of novel air traffic management systems; methods for evaluating ATC and air navigation services; and ground equipment safety. Research proposals for the project are due by Sept. 16, 2025.

Oct. 6, 2025

U.S.: UAS Ops Beyond Visual Sight

The FAA and TSA propose regulations to enable the operation of unmanned aircraft systems (UAS) at low altitudes beyond visual line of sight (BVLOS). The proposed rules are necessary to support the integration of UAS into the national airspace system. They are also intended to provide a predictable and clear pathway for safe, routine, secure, and scalable UAS operations that include package delivery, agriculture, aerial surveying, civic interest, operations training, demonstration, recreation, and flight testing. The TSA proposes to make complementary changes to its regulations to ensure it can continue to impose security measures on these operations. Comments are due by Oct. 6, 2025.

Oct. 12, 2025

Europe: Entry/Exit System

After years of delay, Europe's Entry/Exit System (EES) is now scheduled to start being phased in on Oct. 12, 2025. The EES is an automated IT system for registering non-EU nationals traveling for a short stay each time they cross the external borders of the 29 European countries that plan to use the system. As such, charter operators wishing to enter Europe after full implementation of EES will need to be registered and use the system. Instead of stamping passports, the EES records non-EU nationals' entries and exits using biometric data, such as fingerprints and facial images. The EES will also electronically register and store travelers' documents. EU citizens and long-term visa holders are exempt from the EES as they already undergo different security checks.

Oct. 27, 2025

UK: Gatwick Airport Expansion

Regulators of Gatwick Airport continue to make progress with its plans for capacity expansion, one component of Gatwick Airport Limited's future investment program between 2025 and 2029. A key proposal is to extend its current "standby" northern runway and bring it into regular use, which could increase the airport's maximum capacity by

an estimated 13 million passengers per year. The U.K.'s Secretary of State has issued a "minded to approve" decision on Gatwick's northern runway project, and the deadline for the final decision is Oct. 27, 2025. Other elements of the program include a price cap on operator fees that aims to ensure reductions in airport charges.

Oct. 31, 2025

U.S.: Notam Transition

During October 2025, the FAA is scheduled to transition its notam format to align with international standards, nearly a year later than originally targeted. The agency said the transition to the new format will ensure U.S. notams are compliant with standards set by the International Civil Aviation Organization (ICAO). According to the FAA, the new format will result in improved accuracy and accessibility of notam information for pilots, dispatchers, and other notam consumers, provide notam consumers with one consistent format for domestic and international operations, and allow for enhanced search, sorting, filtering, and archiving capabilities..

Nov. 27, 2025

International: Recommended Standards from ICAO

ICAO has restructured several annexes with updated recommended standards. On Nov. 27, 2025, these become applicable for certain communication, navigation, airport, and heliport operations and aeronautical meteorological services. New standards introduce advanced satellite navigation monitoring and security and reliability of aviation communications with enhanced cyber-resilient standards for air-ground data exchange. Provisions allow for wireless connections between safety systems and improved radio altimeter protection. New standards become effective Nov. 26, 2026, to upgrade ground handling services and for SMS for heliports.

For the most current compliance status, see: ainonline.com/compliance

People in Aviation

BY JESSICA REED


GIOVANNI TOMASSINI

Giovanni Tomassini was named CEO of *Baykar Piaggio Aerospace*, which includes Piaggio Aero and Piaggio Aviation. Tomassini served as COO of the company since he joined in 2009.

Crew Chiefs co-founder **Mark Thibault** is now CEO of the company. Thibault's business aviation experience spans four decades, including senior management roles for business aircraft operators.

Lars Wagner, the current CEO of *MTU Aero Engines*, will take over as CEO of commercial aircraft at *Airbus* at the start of 2026. Wagner previously served as COO and executive v-p of OEM operations at MTU and has also held management positions at Airbus. **Christian Scherer** will depart as CEO at the end of this year after more than four decades with Airbus.

Brandy Cadorath has been appointed as president of *Cadorath* after the passing of her father, **Gerry Cadorath**, the company's former president and CEO. She has worked across multiple departments at the company for more than 14 years.


DEBI CARPENTER

The *Air Charter Safety Foundation* appointed executive director **Debi Carpenter** as president, effective July 1, following the retirement of president and CEO **Bryan Burns** after more than a decade of leadership. Burns, who brought more than 35 years of aviation industry experience to ACSF, previously served as general manager at several FBOs, including Signature Aviation at Washington Dulles International Airport (KIAD) and Ronald Reagan Washington National Airport (KDCA). Carpenter joined ACSF in June 2023 with more than two decades of aviation safety experience.

NATA named **Hector Huezo** COO. Huezo's more than three decades of experience include a term as assistant general counsel in the airport division at the Los Angeles city attorney's office, as well as senior roles within the U.S. Department of Transportation.

Alexander Talarczyk was hired as v-p of operations at Dallas Executive Airport-based *Jets MRO*. Talarczyk's 22-plus years of experience in aviation include serving as senior crew lead at RBR Maintenance, a Part 145 repair station. Jets MRO also appointed **Troy Dale Brumley** as maintenance manager. Brumley was previously director of maintenance and accountable manager at Cirrus Aircraft, and he also held leadership roles at StandardAero, NetJets, and Gulfstream Aerospace.


TROY DALE BRUMLEY

Travis Schleusner was named general manager of *Cutter Aviation's* MRO facility at Phoenix Sky Harbor International Airport. He earned his A&P certification in 2002, and his previous experience includes working on turboprops for a commuter airline.

Juan Muniz was hired as manager of regulatory services at *World Fuel Services*. He previously worked at Universal Weather and Aviation for nearly 23 years, most recently as a global regulatory specialist.

Vertical Aerospace announced several executive appointments, including **Mark Higson**, who was named COO. His 40-plus years of experience include a recent term as CEO of Modulaire Group. **Steve Vellacott**, who previously served as CTO and head of design at Lilium, has joined Vertical as v-p of airworthiness and head of design organization. **Eric Samson** was promoted to v-p of the company's hybrid program after five years as senior v-p of engineering and head of the design organization.


STEVE VELLACOTT

Private aircraft management company *FlyHouse* named **John Thomas Jr.** as CFO. Previously group CFO of Elevate Aviation Group, Thomas has more than 25 years of global aviation finance experience, including senior leadership positions at British Airways, Etihad Airways, and Silverhawk Aviation.

Jeremi Austin and **Ricky Gioconda** are *Jetcraft's* newly appointed sales directors for Canada and the U.S., respectively. Austin's expertise is in aircraft transaction consulting, while Gioconda brings more than five years of experience in aircraft sales.


RICKY GIOCONDA

Hunt & Palmer USA promoted **Paul McCluskey** to senior v-p of commercial aviation. **Wendi Matthews-Ortiz** was promoted to senior v-p of executive aviation, and **Karen Farquharson** is the company's new associate v-p of business development.

AirSprint announced the promotion of **Chris Foley** to v-p of operations. Foley joined the fractional aircraft provider more than 20 years ago as an AME and has headed the maintenance team for the past 10 years. AirSprint also promoted maintenance manager **Brett Knox** to director of maintenance. Knox started at the Canadian company as an AME in 2006 and has also held the roles of crew lead and production manager.


STEPHANIE GOETZ

Corporate aviator and L-39 pilot **Stephanie Goetz** has been named spokesperson and ambassador for *Corporate Angel Network* (*CAN*), a nonprofit that arranges free flights for cancer patients on business aircraft. Known for piloting "The Pink Jet," Goetz is recognized in the aviation community for her work promoting breast cancer awareness. Goetz, who also serves as president of The Pink Jet nonprofit, will speak at industry events, appear in promotional videos, and work with CAN leadership to strengthen collaboration.


KATHRYN INMAN

Kathryn Inman, previously general counsel for the Florida Office of the Attorney General, was hired as a member of the public policy and regulation group at *Holland & Knight's* Tallahassee office. Inman has experience working as assistant general counsel for the NTSB and as special assistant to the chief counsel at the FAA.

Aircraft brokerage *Blueberry Aviation* hired **Gwenola Robert** as v-p of contracts. Robert's 20-plus years of aviation experience include leading business transformation initiatives at regional aircraft manufacturer ATR and serving as chief commercial officer at Aura Aero.

Matt Fullerton joined *Concorde Battery's* international sales team as technical sales manager for the Central U.S. Fullerton has experience as a commercial pilot and as an A&P mechanic, and his sales experience includes OEM product lines and aircraft sales.

FINAL FLIGHT

Jim Hesseman, president of *Air Care Alliance (*ACA) and an advocate for volunteer aviation, died June 24 following an illness, ending a career spanning more than two decades of public-benefit flying. Hesseman led ACA, which represents a network of volunteer pilot groups across the U.S., and personally flew missions for multiple organizations, including Angel Flight West, PALS SkyHope, Pilots N Paws, Flights for Life, and White Feather Flights.

The National Aeronautic Association (NAA) recognized Hesseman's contributions with its 2023 award for outstanding achievement in the advancement of public benefit flying, describing him as "a volunteer pilot with generosity and compassion that exceeds all expectations." Upon receiving the NAA award, Hesseman articulated his philosophy: "Do as much as you can, for as long as you can, for as many as you can." The organization characterized these words as "a testament to the way Jim lived."

"Jim believed deeply in the power of aviation to change lives," ACA said. "Whether flying medical patients, transporting precious cargo, or giving grieving families a moment of peace in the sky, he approached every mission with humility, compassion, and care."

AWARDS AND HONORS

The National Aeronautic Association named **Joan Sullivan Garrett** as the 2025 recipient of the Wright Brothers Memorial Trophy, recognizing her contributions to aviation medical emergency response. Garrett established *MedAire* in 1985 following her experience as a critical care flight nurse responding to a remote Arizona vehicle accident where she was unable to save an eight-year-old victim. The company pioneered the inaugural *Manual for In-flight Medical Care* and upgraded medical kits. Garrett's influence extended beyond corporate operations into regulatory policy. Her 2001 congressional testimony is credited with prompting the FAA to mandate automated external defibrillators and enhanced emergency medical kits aboard U.S. airliners.

Duncan Aviation aircraft sales and acquisitions representative **Doug Roth** received the FAA's Wright Brothers Master Pilot Award, which recognizes exceptional individuals with at least 50 years of piloting and/or aircraft operations experience. Roth, who received his pilot's license in 1975 and recorded upwards of 7,100 flight hours, has worked at Duncan since 1983.

› continued from page 30

to make sure everything was done. They leave and they realize, "Oh, I have an item coming due next week that wasn't in that work order."

Vendors do a great job of trying to catch those things, but they don't always catch them. I think operators having more oversight, really getting into the details of what's going on, is really important.

From a personnel standpoint, I think the most successful organizations, those that keep their crew and their technicians, are able to transfer that knowledge and get technicians involved in the actual business of business aviation. I think that is critical. When we treat it as just "do this task, do that task" and do not give them insight into how the business operates, that's where some of these technicians are easily grabbed from our industry into other industries—when they don't have this strong connection to their organization or the industry as a whole.

RD JOHNSON ▸ For quality, one of the things that we're already missing is how fatigued our people are. I don't want anyone fatigued working on or flying my airplanes. So how are we managing that? Just recently, I was somewhere and this person was working two shifts—six in the morning until ten at night—and they were back in the workplace at six o'clock. And I go, "What are you doing?" It wasn't our people, and they weren't flying airplanes or working on airplanes. But I'm going, "Geez, are they giving the quality product that they need to the customer?" We can do better in our fatigue management.

The second thing is just say no. You have to be willing to say no, no matter the consequences, because no is the right thing to do. It's easy to say yes, but it's hard to say no. No is going to cause the airplane not to be ready. No's going to cause the pilot or the mechanic to have to go home and go to bed. I think it's very simple. You just have to have a culture where it's okay to lean forward and say no. ▮

AIN Media Group

JAMES HOLAHAN (1921-2015), FOUNDING EDITOR, WILSON S. LEACH, FOUNDER & CHAIR EMERITUS

EDITOR-IN-CHIEF – Matt Thurber
MANAGING EDITOR – Charles Alcock
DIGITAL EDITOR – Chad Trautvetter
EDITOR AIN MONTHLY MAGAZINE – Kerry Lynch
BUSINESS AVIATION SERVICES EDITOR – Curt Epstein
SENIOR EDITOR – Hanneke Weitering – Technology Editor
COPY EDITOR – Jessica Reed
NEWS REPORTERS – Sarah Rose, Amy Wilder
CONTRIBUTORS – Charlotte Bailey – Europe, David Donald – U.K., Jennifer Leach English, David Jack Kenny – Safety, Gordon Gilbert , Jennifer Meszaros – Southeast Asia, Dale Smith, Richard Pedicini, James Wynbrandt
PRODUCTION MANAGER – Martha Jercinovich
GRAPHIC DESIGNER – Grzegorz Rzekos
DIRECTOR OF VIDEO – Ian Whelan
SENIOR DEVELOPER – Cameron MacPherson
FRONT END DEVELOPER – David Lohmeyer

EXECUTIVE CHAIR – Dave Leach
PRESIDENT – Ruben Kempeneer
HEAD OF PEOPLE & BRAND – Jennifer Leach English
SENIOR DIRECTOR, INDUSTRY AFFAIRS AND EVENTS – Nancy O'Brien
ADVERTISING SALES
DIRECTOR OF SALES - Henry Specht
Victoria Tod – Northeastern U.S./Eastern Canada/United Kingdom, +1 (203) 733-4184
Michelle James – Western U.S./Western Canada, +1 (520) 343-0236
Joe Rosone – Midwestern U.S., Southeastern U.S./Caribbean/Brazil, +1 (301) 693-4687
Diana Scogna – Europe/Middle East, +33 6 62 52 25 47
DIRECTOR OF MARKETING AND CLIENT SERVICES – Lisa Valladares
AUDIENCE DEVELOPMENT DIRECTOR – Eileen Silberfeld
EVENTS SPECIALIST – Brien O'Brien
MARKETING SPECIALIST – Alyssa Barry
SOCIAL MEDIA MARKETING – Zach O'Brien
SALES ADMINISTRATOR – Cindy Nesline

MANAGER OF FINANCE & HUMAN RESOURCES – Tracy Britton
ACCOUNTS PAYABLE – Mary Avella
ACCOUNTS RECEIVABLE – Bobbie Bing

U.S. HEADQUARTERS
214 Franklin Ave., Midland Park, NJ 07432, +1 (201) 444-5075
Advertising Inquiries: +1 (201) 345-0085, adsales@ainonline.com
Circulation Inquiries: +1 (201) 345-0085, subscriptions@ainonline.com
WASHINGTON, D.C. EDITORIAL OFFICE:
Kerry Lynch: klynch@ainonline.com, Tel: +1 (703) 969-9195
EUROPEAN EDITORIAL OFFICE:
Charles Alcock: calcock@ainonline.com, Tel: +44 7799 907595

Aviation International News (ISSN 0887-9877) is published twelve times per year (monthly). Periodicals postage paid at Midland Park, N.J., and additional mailing offices. **Postmaster:** Send address changes to AIN Media Group, 214 Franklin Ave., Midland Park, NJ 07432.
Allow at least eight weeks for processing. Include old address as well as new, and an address label from a recent issue if possible.
Subscription inquiries: +1 (201) 345-0085 or email: subscriptions@ainonline.com.

Aviation International News is a publication of AIN Media Group, 214 Franklin Ave., Midland Park, NJ 07432; Tel.: +1 (201) 444-5075.
 AIN Media Group publishes **Aviation International News, AINalerts, AINonline, Business Jet Traveler, BJTwaypoints, ABACE Convention News, Dubai Airshow News, EBACE Convention News, Farnborough Airshow News, FutureFlight.aero, VAI Convention News, LABACE Convention News, MEBAA Convention News, NBAA Convention News, Paris Airshow News, Singapore Airshow News, Mobile Apps: Aviation International News; AINonline.**
PUBLICATION MAIL AGREEMENT NO. 40649046 RETURN UNDELIVERABLE CANADIAN ADDRESSES TO:
PITNEY BOWES INTERNATIONAL MAIL, STATION A, P.O. BOX 54, WINDSOR, ON, N9A 6J5, returns il@imex.pb.com.

BPA WORLDWIDE

For feedback, letters to the editor, or other editorial needs, please contact AIN's Editors at ainedit@ainonline.com


AIRCRAFT POST
Save time and money by monitoring the value of your aircraft in 'real-time'.
Subscribers can also:
– Generate a comprehensive list of all aircraft transactions in the last 12 months
– View a detailed photo gallery for your specific aircraft
– Receive a weekly report summarizing market fluctuations
Visit aircraftpost.com/contact to learn more
AIN Media Group


HOW DOES
QUALITY
INSPIRE CONFIDENCE?
In each of our facilities and on each of our shop floors, quality comes first. It's about more than reliability and commitment; it's about trust. Ensuring quality means ensuring safety – and to us, nothing matters more.
Learn more at rtx.com
RTX
COLLINS AEROSPACE | PRATT & WHITNEY | RAYTHEON